# Four Operations Workbook

by Richard Brown

# Contents Page

# Number Grid

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|
| 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 |
| 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 |
| 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 |
| 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 |
| 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 |
| 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 |
| 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 |
| 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 |
| 100 | 101 | 102 | 103 | 104 | 105 | 106 | 107 | 108 | 109 |
| 110 | 111 | 112 | 113 | 114 | 115 | 116 | 117 | 118 | 119 |
| 120 | 121 | 122 | 123 | 124 | 125 | 126 | 127 | 128 | 129 |
| 130 | 131 | 132 | 133 | 134 | 135 | 136 | 137 | 138 | 139 |
| 140 | 141 | 142 | 143 | 144 | 145 | 146 | 147 | 148 | 149 |
| 150 | 151 | 152 | 153 | 154 | 155 | 156 | 157 | 158 | 159 |
| 160 | 161 | 162 | 163 | 164 | 165 | 166 | 167 | 168 | 169 |
| 170 | 171 | 172 | 173 | 174 | 175 | 176 | 177 | 178 | 179 |
| 180 | 181 | 182 | 183 | 184 | 185 | 186 | 187 | 188 | 189 |
| 190 | 191 | 192 | 193 | 194 | 195 | 196 | 197 | 198 | 199 |
| 200 | 201 | 202 | 203 | 204 | 205 | 206 | 207 | 208 | 209 |
| 210 | 211 | 212 | 213 | 214 | 215 | 216 | 217 | 218 | 219 |
| 220 | 221 | 222 | 223 | 224 | 225 | 226 | 227 | 228 | 229 |
| 230 | 231 | 232 | 233 | 234 | 235 | 236 | 237 | 238 | 239 |
| 240 | 241 | 242 | 243 | 244 | 245 | 246 | 247 | 248 | 249 |
| 250 | 251 | 252 | 253 | 254 | 255 | 256 | 257 | 258 | 259 |
| 260 | 261 | 263 | 264 | 265 | 266 | 267 | 268 | 269 | 270 |
| 270 | 271 | 272 | 273 | 274 | 275 | 276 | 277 | 278 | 279 |
| 280 | 281 | 282 | 283 | 284 | 285 | 286 | 287 | 288 | 289 |
| 290 | 291 | 292 | 293 | 294 | 295 | 296 | 297 | 298 | 299 |
| 300 | 301 | 302 | 303 | 304 | 305 | 306 | 307 | 308 | 309 |

# Multiplication Square

| x | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 2 | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 |
| 3 | 3 | 6 | 9 | 12 | 15 | 18 | 21 | 24 | 27 | 30 | 33 | 36 |
| 4 | 4 | 8 | 12 | 16 | 20 | 24 | 28 | 32 | 36 | 40 | 44 | 48 |
| 5 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 |
| 6 | 6 | 12 | 18 | 24 | 30 | 36 | 42 | 48 | 54 | 60 | 66 | 72 |
| 7 | 7 | 14 | 21 | 28 | 35 | 42 | 49 | 56 | 63 | 70 | 77 | 84 |
| 8 | 8 | 16 | 24 | 32 | 40 | 48 | 56 | 64 | 72 | 80 | 88 | 96 |
| 9 | 9 | 18 | 27 | 36 | 45 | 54 | 63 | 72 | 81 | 90 | 99 | 108 |
| 10 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 |
| 11 | 11 | 22 | 33 | 44 | 55 | 66 | 77 | 88 | 99 | 110 | 121 | 132 |
| 12 | 12 | 24 | 36 | 48 | 60 | 72 | 84 | 96 | 108 | 120 | 132 | 144 |

# Decimal Number Grids

| 0 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 |
| 2 | 2.1 | 2.2 | 2.3 | 2.4 | 2.5 | 2.6 | 2.7 | 2.8 | 2.9 |
| 3 | 3.1 | 3.2 | 3.3 | 3.4 | 3.5 | 3.6 | 3.7 | 3.8 | 3.9 |
| 4 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 4.7 | 4.8 | 4.9 |
| 5 | 5.1 | 5.2 | 5.3 | 5.4 | 5.5 | 5.6 | 5.7 | 5.8 | 5.9 |
| 6 | 6.1 | 6.2 | 6.3 | 6.4 | 6.5 | 6.6 | 6.7 | 6.8 | 6.9 |
| 7 | 7.1 | 7.2 | 7.3 | 7.4 | 7.5 | 7.6 | 7.7 | 7.8 | 7.9 |
| 8 | 8.1 | 8.2 | 8.3 | 8.4 | 8.5 | 8.6 | 8.7 | 8.8 | 8.9 |
| 9 | 9.1 | 9.2 | 9.3 | 9.4 | 9.5 | 9.6 | 9.7 | 9.8 | 9.9 |
| 10 | 10.1 | 10.2 | 10.3 | 10.4 | 10.5 | 10.6 | 10.7 | 10.8 | 10.9 |
| 11 | 11.1 | 11.2 | 11.3 | 11.4 | 11.5 | 11.6 | 11.7 | 11.8 | 11.9 |
| 12 | 12.1 | 12.2 | 12.3 | 12.4 | 12.5 | 12.6 | 12.7 | 12.8 | 12.9 |
| 13 | 13.1 | 13.2 | 13.4 | 13.4 | 13.5 | 13.6 | 13.7 | 13.8 | 13.9 |
| 14 | 14.1 | 14.2 | 14.3 | 14.4 | 14.5 | 14.6 | 14.7 | 14.8 | 14.9 |
| 15 | 15.1 | 15.2 | 15.3 | 15.4 | 15.5 | 15.6 | 15.7 | 15.8 | 15.9 |

| 0 | 0.01 | 0.02 | 0.03 | 0.04 | 0.05 | 0.06 | 0.07 | 0.08 | 0.09 |
|---|---|---|---|---|---|---|---|---|---|
| 0.1 | 0.11 | 0.12 | 0.13 | 0.14 | 0.15 | 0.16 | 0.17 | 0.18 | 0.19 |
| 0.2 | 0.21 | 0.22 | 0.23 | 0.24 | 0.25 | 0.26 | 0.27 | 0.28 | 0.29 |
| 0.3 | 0.31 | 0.32 | 0.33 | 0.34 | 0.35 | 0.36 | 0.37 | 0.38 | 0.39 |
| 0.4 | 0.41 | 0.42 | 0.43 | 0.44 | 0.45 | 0.46 | 0.47 | 0.48 | 0.49 |
| 0.5 | 0.51 | 0.52 | 0.53 | 0.54 | 0.55 | 0.56 | 0.57 | 0.58 | 0.59 |
| 0.6 | 0.61 | 0.62 | 0.63 | 0.64 | 0.65 | 0.66 | 0.67 | 0.68 | 0.69 |
| 0.7 | 0.71 | 0.72 | 0.73 | 0.74 | 0.75 | 0.76 | 0.77 | 0.78 | 0.79 |
| 0.8 | 0.81 | 0.82 | 0.83 | 0.84 | 0.85 | 0.86 | 0.87 | 0.88 | 0.89 |
| 0.9 | 0.91 | 0.92 | 0.93 | 0.94 | 0.95 | 0.96 | 0.97 | 0.98 | 0.99 |
| 1 | 1.01 | 1.02 | 1.03 | 1.04 | 1.05 | 1.06 | 1.07 | 1.08 | 1.09 |
| 1.1 | 1.11 | 1.12 | 1.13 | 1.14 | 1.15 | 1.16 | 1.17 | 1.18 | 1.19 |
| 1.2 | 1.21 | 1.22 | 1.23 | 1.24 | 1.25 | 1.26 | 1.27 | 1.28 | 1.29 |
| 1.3 | 1.31 | 1.32 | 1.33 | 1.34 | 1.35 | 1.36 | 1.37 | 1.38 | 1.39 |
| 1.4 | 1.41 | 1.42 | 1.43 | 1.44 | 1.45 | 1.46 | 1.47 | 1.48 | 1.49 |
| 1.5 | 1.51 | 1.52 | 1.53 | 1.54 | 1.55 | 1.56 | 1.57 | 1.58 | 1.59 |

# 2-Digit Column Addition

Step 1

| | 10s | 1s |
|---|---|---|
| | 3 | 5 |
| + | | 7 |
| | | |

Step 2

| | 10s | 1s |
|---|---|---|
| | 3 | 5 |
| + | | 7 |
| | | 2 |
| | 1 | |

Step 3

| | 10s | 1s |
|---|---|---|
| | 3 | 5 |
| + | | 7 |
| | 4 | 2 |
| | 1 | |

## Step 1

First, write 35 + 7 in the correct **place value columns** of the **10s** and **1s**.

Add each column, starting with the **1s** column.

## Step 2

Then, in the **1s** column add **altogether**, 5 + 7, equals 12 **ones** (**10** + **2**).

Write **2** in the **total value** of the **1s** column.

**Exchange/regroup** the **10** **ones** into **1** **ten** from the **1s** column to the **10s** column.

In the **10s** column, write **1** **ten** underneath the **total value line** .

## Step 3

Next, in the **10s** column add **altogether**, 3 + **1**, equals 4 **tens** (**40**).

Write **4** in the **total value** of the **10s** column.

**Sum** of 35 + 7 is **42**.

# 2-Digit Column Addition

Step 1

| | 10s | 1s |
|---|---|---|
| | 5 | 7 |
| + | 3 | 5 |
| | | |

Step 2

| | 10s | 1s |
|---|---|---|
| | 5 | 7 |
| + | 3 | 5 |
| | | 2 |
| | 1 | |

Step 3

| | 10s | 1s |
|---|---|---|
| | 5 | 7 |
| + | 3 | 5 |
| | 9 | 2 |
| | 1 | |

## Step 1

First, write 57 + 35 in the correct **place value columns** of the **10s** and **1s**.

Add each column, starting with the **1s** column.

## Step 2

Then, in the **1s** column add **altogether**, 7 + 5, equals 12 **ones** (**10** + **2**).

Write **2** in the **total value** of the **1s** column.

**Exchange/regroup** the **10** **ones** into **1** **ten** from the **1s** column to the **10s** column.

In the **10s** column, write **1** **ten** underneath the **total value line** .

## Step 3

Next, in the **10s** column add **altogether**, 5 + 3 + **1**, equals 9 **tens** (**90**).

Then write **9** in the **total value** of the **10s** column.

**Sum** of 57 + 35 is **92**.

# 3-Digit Column Addition

Step 1

| | 100s | 10s | 1s |
|---|---|---|---|
| | 6 | 3 | 5 |
| + | | 4 | 7 |
| | | | |

Step 2

| | 100s | 10s | 1s |
|---|---|---|---|
| | 6 | 3 | 5 |
| + | | 4 | 7 |
| | | | 2 |
| | | 1 | |

Step 3

| | 100s | 10s | 1s |
|---|---|---|---|
| | 6 | 3 | 5 |
| + | | 4 | 7 |
| | | 8 | 2 |
| | | 1 | |

Step 4

| | 100s | 10s | 1s |
|---|---|---|---|
| | 6 | 3 | 5 |
| + | | 4 | 7 |
| | 6 | 8 | 2 |
| | | 1 | |

## Step 1

First, write 635 + 47 in the correct **place value columns** of the **100s**, **10s** and **1s**.
Add each column, starting with the **1s** column.

## Step 2

Then, in the **1s** column add **altogether**, 5 + 7, equals 12 **ones** (**10** + **2**).
Write **2** in the **total value** of the **1s** column.
**Exchange/regroup** the **10** **ones** into **1** **ten** from the **1s** column to the **10s** column.
In the **10s** column, write **1** **ten** underneath the **total value line** .

## Step 3

Next, in the **10s** column add **altogether**, 3 + 4 + **1**, equals 8 **tens** (**80**).
Write **8** in the **total value** of the **10s** column.

## Step 4

Finally, in the **100s** column, 6 add nothing, equals 6 **hundreds** (**600**).
Write **6** in the **total value** of the **100s** column.
**Sum** of 635 + 47 is **682**.

# 3-Digit Column Addition

Step 1

| | 100s | 10s | 1s |
|---|---|---|---|
| | 4 | 5 | 7 |
| + | 2 | 8 | 5 |
| | | | |

Step 2

| | 100s | 10s | 1s |
|---|---|---|---|
| | 4 | 5 | 7 |
| + | 2 | 8 | 5 |
| | | | 2 |
| | | 1 | |

Step 3

| | 100s | 10s | 1s |
|---|---|---|---|
| | 4 | 5 | 7 |
| + | 2 | 8 | 5 |
| | | 4 | 2 |
| | 1 | 1 | |

Step 4

| | 100s | 10s | 1s |
|---|---|---|---|
| | 4 | 5 | 7 |
| + | 2 | 8 | 5 |
| | 7 | 4 | 2 |
| | 1 | 1 | |

## Step 1

First, write 457 + 285 in the correct **place value columns** of the **100s**, **10s** and **1s**.

Add each column, starting with the **1s** column.

## Step 2

Then, in the **1s** column add **altogether**, 7 + 5, equals 12 **ones** (**10** + **2**).

Write **2** in the **total value** of the **1s** column.

**Exchange/regroup** the **10** **ones** into **1** **ten** from the **1s** column to the **10s** column.

In the **10s** column, write **1** **ten** underneath the **total value line** .

## Step 3

Next, in the **10s** column add **altogether**, 5 + 8 + **1**, equals 14 **tens** (**100** + **40**).

Then write **4** in the **total value** of the **10s** column.

**Exchange/regroup** the **10** **tens** into **1** **hundred** from the **10s** column to the **100s** column. In the **100s** column, write **1** **ten** underneath the **total value line** .

## Step 4

Finally, in the **100s** column add **altogether**, 4 + 2 + **1**, equals 7 **hundreds** (**700**).

Write **7** in the **total value** of the **100s** column.

**Sum** of 457 + 285 is **742**.

# 4-Digit Column Addition

Step 1

| | 1,000s | 100s | 10s | 1s |
|---|---|---|---|---|
| | 8 | 2 | 9 | 5 |
| + | | 3 | 4 | 7 |
| | | | | |
| | | | | |

Step 2

| | 1,000s | 100s | 10s | 1s |
|---|---|---|---|---|
| | 8 | 2 | 9 | 5 |
| + | | 3 | 4 | 7 |
| | | | | 2 |
| | | | 1 | |

Step 3

| | 1,000s | 100s | 10s | 1s |
|---|---|---|---|---|
| | 8 | 2 | 9 | 5 |
| + | | 3 | 4 | 7 |
| | | | 4 | 2 |
| | | 1 | 1 | |

Step 4

| | 1,000s | 100s | 10s | 1s |
|---|---|---|---|---|
| | 8 | 2 | 9 | 5 |
| + | | 3 | 4 | 7 |
| | | 6 | 4 | 2 |
| | | 1 | 1 | |

Step 5

| | 1,000s | 100s | 10s | 1s |
|---|---|---|---|---|
| | 8 | 2 | 9 | 5 |
| + | | 3 | 4 | 7 |
| | 8, | 6 | 4 | 2 |
| | | 1 | 1 | |

Step 1

First, write 8,295 + 347 in the correct **place value columns** of the **1,000s**, **100s**, **10s** and **1s**.

Add each column, starting with the **1s** column.

Step 2

Then, in the **1s** column add **altogether**, 5 + 7, equals 12 **ones** (**10** + **2**).

Write **2** in the **total value** of the **1s** column.

**Exchange/regroup** the **10** **ones** into **1** **ten** from the **1s** column to the **10s** column.

In the **10s** column, write **1** **ten** underneath the **total value line** .

Step 3

Next, in the **10s** column add **altogether**, 9 + 4 + **1**, equals 14 **tens** (**100** + **40**).

Write **4** in the **total value** of the **10s** column.

**Exchange/regroup** the **10** **tens** into **1** **hundred** from the **10s** column to the **100s** column.

In the **100s** column, write **1** **hundred** underneath the **total value line** .

Step 4

Then, in the **100s** column add **altogether**, 2 + 3 + **1**, equals 6 **hundreds** (**600**).

Write **6** in the **total value** of the **100s** column.

Step 5

Finally, in the **1,000s** column 8 add nothing equals 8 **thousands** (**8,000**).

Write **8** in the total value of the **1,000s** column.

**Sum** of 8,295 + 347 is **8,642**.

# 4-Digit Column Addition

Step 1

| | 1,000s | 100s | 10s | 1s |
|---|---|---|---|---|
| | 6 | 5 | 8 | 4 |
| + | 2 | 9 | 1 | 7 |
| | | | | |
| | | | | |

Step 2

| | 1,000s | 100s | 10s | 1s |
|---|---|---|---|---|
| | 6 | 5 | 8 | 4 |
| + | 2 | 9 | 1 | 7 |
| | | | | 1 |
| | | | 1 | |

Step 3

| | 1,000s | 100s | 10s | 1s |
|---|---|---|---|---|
| | 6 | 5 | 8 | 4 |
| + | 2 | 9 | 1 | 7 |
| | | | 0 | 1 |
| | | 1 | 1 | |

Step 4

| | 1,000s | 100s | 10s | 1s |
|---|---|---|---|---|
| | 6 | 5 | 8 | 4 |
| + | 2 | 9 | 1 | 7 |
| | | 5 | 0 | 1 |
| | 1 | 1 | 1 | |

Step 5

| | 1,000s | 100s | 10s | 1s |
|---|---|---|---|---|
| | 6 | 5 | 8 | 4 |
| + | 2 | 9 | 1 | 7 |
| | 9, | 5 | 0 | 1 |
| | 1 | 1 | 1 | |

Step 1

First, write 6,584 + 2,917 in the correct **place value columns** of the **1,000s**, **100s**, **10s** and **1s**.

Add each column, starting with the **1s** column.

Step 2

Then, in the **1s** column add **altogether**, 4 + 7, equals 11 **ones** (**10** + **1**).

Write **1** in the **total value** of the **1s** column.

**Exchange/regroup** the **10** **ones** into **1** **ten** from the **1s** column to the **10s** column.

In the **10s** column, write **1** **ten** underneath the **total value line** .

Step 3

Next, in the **10s** column add **altogether**, 8 + 1 + **1**, equals 10 **tens** (**100** + **0**).

Write **0** in the **total value** of the **10s** column.

**Exchange/regroup** the **10** **tens** into **1** **hundred** from the **10s** column to the **100s** column.

In the **100s** column, write **1** **hundred** underneath the **total value line** .

Step 4

Then, in the **100s** column add **altogether**, 5 + 9 + **1**, equals 15 **hundreds** (**1,000** + **500**)

Write **5** in the **total value** of the **100s** column.

**Exchange/regroup** the **10** **hundreds** into **1** **thousand** from the **100s** column to the **1,000s** column.

In the **100s** column, write **1** **hundred** underneath the **total value line** .

Step 5

Finally, in the **1,000s** column add **altogether**, 6 + 2 + **1**, equals 9 **thousands** (**9,000**).

Write **9** in the total value of the **1,000s** column.

**Sum** of 6,584 + 2,917 is **9,501**.

# Column Addition with Decimals

Step 1

| | 10s | 1s | 10ths | 100ths |
|---|---|---|---|---|
| | 3 | 1 | . 4 | 6 |
| + | 2 | 9 | . 0 | 7 |
| | | | | |
| | | | | |

Step 2

| | 10s | 1s | 10ths | 100ths |
|---|---|---|---|---|
| | 3 | 1 | . 4 | 6 |
| + | 2 | 9 | . 0 | 7 |
| | | | | 3 |
| | | | 1 | |

Step 3

| | 10s | 1s | 10ths | 100ths |
|---|---|---|---|---|
| | 3 | 1 | . 4 | 6 |
| + | 2 | 9 | . 0 | 7 |
| | | | . 5 | 3 |
| | | | 1 | |

Step 4

| | 10s | 1s | 10ths | 100ths |
|---|---|---|---|---|
| | 3 | 1 | . 4 | 6 |
| + | 2 | 9 | . 0 | 7 |
| | | 0 | . 5 | 3 |
| | 1 | | 1 | |

Step 5

| | 10s | 1s | 10ths | 100ths |
|---|---|---|---|---|
| | 3 | 1 | . 4 | 6 |
| + | 2 | 9 | . 0 | 7 |
| | 6 | 0 | . 5 | 3 |
| | 1 | | 1 | |

Step 1

First, write 31.46 + 29.07 in the correct **place value columns** of the **10s**, **1s**, **10ths** and **100ths**.

Add each column, starting with the **100ths** column.

Step 2

Then, in the **100ths** column add **altogether**, 6 + 7, equals 13 **hundredths** (**0.1** + **0.03**).

Write **3** in the **total value** of the **100ths** column.

**Exchange/regroup** the **10** **hundredths** into **1** **tenth** from the **100ths** column to the **10ths** column.

In the **10ths** column, write **1** **tenth** underneath the **total value line** .

Step 3

Next, in the **10ths** column add **altogether**, 4 + 0 + **1**, equals 5 **tenths** (**0.5**).

Write **5** in the **total value** of the **10ths** column.

Step 4

Then, in the **1s** column add **altogether**, 1 + 9, equals 10 **ones** (**10** + **0**).

Write **0** in the **total value** of the **1s** column.

**Exchange/regroup** the **10** **ones** into **1** **ten** from the **1s** column to the **10s** column.

In the **10s** column, write **1** **ten** underneath the **total value line** .

Step 5

Finally, in the **10s** column add **altogether**, 3 + 2, equals 5 **tens** (**50**).

Write **5** in the **total value** of the **100s** column.

**Sum** of 31.46 + 29.07 is **60.53**.

# Column Addition with Decimals

Step 1

| | 1s | 10ths | 100ths | 1000ths |
|---|---|---|---|---|
| | 5 | . 4 | 3 | 8 |
| + | 2 | . 9 | 7 | 6 |
| | | | | |

Step 2

| | 1s | 10ths | 100ths | 1000ths |
|---|---|---|---|---|
| | 5 | . 4 | 3 | 8 |
| + | 2 | . 9 | 7 | 6 |
| | | | | 4 |
| | | | 1 | |

Step 3

| | 1s | 10ths | 100ths | 1000ths |
|---|---|---|---|---|
| | 5 | . 4 | 3 | 8 |
| + | 2 | . 9 | 7 | 6 |
| | | | 1 | 4 |
| | | 1 | 1 | |

Step 4

| | 1s | 10ths | 100ths | 1000ths |
|---|---|---|---|---|
| | 5 | . 4 | 3 | 8 |
| + | 2 | . 9 | 7 | 6 |
| | | . 4 | 1 | 4 |
| | 1 | 1 | 1 | |

Step 5

| | 1s | 10ths | 100ths | 1000ths |
|---|---|---|---|---|
| | 5 | . 4 | 3 | 8 |
| + | 2 | . 9 | 7 | 6 |
| | 8 | . 4 | 1 | 4 |
| | 1 | 1 | 1 | |

Step 1

First, write 5.438 + 2.976 in the correct **place value columns** of the **1s**, **10ths**, **100ths** and **1000ths**.

Add each column, starting with the **1000ths** column.

Step 2

Then, in the **1000ths** column add **altogether**, 8 + 6, equals 14 **thousandths** (**0.01** + **0.004**).

Write **4** in the **total value** of the **1000ths** column.

**Exchange/regroup** the **10** **thousandths** into **1** **hundredth** from the **1000ths** column to the **100ths** column.

In the **100ths** column, write **1** **hundredth** underneath the **total value line** .

Step 3

Next, in the **100ths** column add **altogether**, 3 + 7 + **1**, equals 11 **hundredths** (**0.1** + **0.01**)

Write **1** in the **total value** of the **100ths** column.

**Exchange/regroup** the **10** **hundredths** into **1** **tenth** from the **100ths** column to the **10ths** column.

In the **10ths** column, write **1** **tenth** underneath the **total value line** .

Step 4

Then, in the **10ths** column add **altogether**, 4 + 9 + **1**, equals 14 **tenths** (**1** + **0.4**).

Write **4** in the **total value** of the **10ths** column.

**Exchange/regroup** the **10** **tenths** into **1** **one** from the **10ths** column to the **1s** column.

In the **1s** column, write **1** **one** underneath the **total value line** .

Step 5

Finally, in the **1s** column add **altogether**, 5 + 2 + **1**, equals 8 **ones** (**8**).

Write **8** in the **total value** of the **1s** column.

**Sum** of 5.438 + 2.976 is **8.414**.

# Long Addition

Step 1

| | 1,000s | 100s | 10s | 1s |
|---|---|---|---|---|
| | 6 | 8 | 9 | 4 |
| | | 3 | 5 | 7 |
| + | | | 2 | 1 |
| | | | | |

Step 2

| | 1,000s | 100s | 10s | 1s |
|---|---|---|---|---|
| | 6 | 8 | 9 | 4 |
| | | 3 | 5 | 7 |
| + | | | 2 | 1 |
| | | | | 2 |
| | | | 1 | |

Step 3

| | 1,000s | 100s | 10s | 1s |
|---|---|---|---|---|
| | 6 | 8 | 9 | 4 |
| | | 3 | 5 | 7 |
| + | | | 2 | 1 |
| | | | 7 | 2 |
| | | 1 | 1 | |

Step 4

| | 1,000s | 100s | 10s | 1s |
|---|---|---|---|---|
| | 6 | 8 | 9 | 4 |
| | | 3 | 5 | 7 |
| + | | | 2 | 1 |
| | | 2 | 7 | 2 |
| | | 1 | 1 | |

Step 5

| | 1,000s | 100s | 10s | 1s |
|---|---|---|---|---|
| | 6 | 8 | 9 | 4 |
| | | 3 | 5 | 7 |
| + | | | 2 | 1 |
| | 7, | 2 | 7 | 2 |
| | 1 | 1 | 1 | |

Step 1

First, write 6,894 + 357 + 21 in the correct **place value columns** of the **1,000s**, **100s**, **10s** and **1s**.

Add each column, starting with the **1s** column.

Step 2

Then, in the **1s** column add **altogether**, 4 + 7 + 1, equals 12 **ones** (**10** + **2**).

Write **2** in the **total value** of the **1s** column.

**Exchange/regroup** the **10** **ones** into **1** **ten** from the **1s** column to the **10s** column.

In the **10s** column, write **1** **ten** underneath the **total value line** .

Step 3

Next, in the **10s** column add **altogether**, 9 + 5 + 2 + **1**, equals 17 **tens** (**100** + **70**).

Write **7** in the **total value** of the **10s** column.

**Exchange/regroup** the **10** **tens** into **1** **hundred** from the **10s** column to the **100s** column.

In the **100s** column, write **1** **hundred** underneath the **total value line** .

Step 4

Then, in the **100s** column add **altogether**, 8 + 3 + **1**, equals 12 **hundreds** (**1,000** + **200**)

Write **2** in the **total value** of the **100s** column.

**Exchange/regroup** the **10** **hundreds** into **1** **thousand** from the **10s** column to the **100s** column.

In the **1,000s** column, write **1** **thousand** underneath the **total value line** .

Step 5

Finally, in the **1,000s** column add **altogether**, 6 + **1**, equals 7 **thousands** (**7,000**).

Write **7** in the total value of the **1,000s** column.

**Sum** of 6,894 + 357 + 21 is **7,272**.

# Questions

Pages 1

1) 38 + 4 =
2) 49 + 6 =
3) 57 + 5 =
4) 79 + 3 =

Pages 2

1) 48 + 25 =
2) 27 + 43 =
3) 34 + 59 =
4) 66 + 17 =

Pages 3

1) 138 + 94 =
2) 452 + 93 =
3) 304 + 57 =
4) 260 + 83 =

Pages 4

1) 139 + 244 =
2) 257 +279 =
3) 265 +569 =
4) 187 + 248 =

Pages 5-6

1) 3,246 + 248 =
2) 4,137 + 465 =
3) 8,257 + 483 =
4) 7,340 + 569 =

Pages 7-8

1) 4,137 + 1,248 =
2) 7,340 + 1,465 =
3) 4,279 + 2,483 =
4) 3,938 + 2,448 =

Pages 9-10

1) 82.13 + 14.78 =
2) 28.25 + 14.56 =
3) 44.79 + 35.48 =
4) 57.34 + 25.69 =

Pages 11-12

1) 3.569 + 5.448 =
2) 5.634 + 1.756 =
3) 6.926 + 2.487 =
4) 3.493 + 2.744 =

Pages 13-14

1) 7,139 + 244 + 37 =
2) 1,465 + 508 + 40 =
3) 8,213 + 660 + 57 =
4) 6,304 + 568 + 98 =

# Answers

Pages 1

1) 42
2) 54
3) 62
4) 82

Pages 2

1) 73
2) 70
3) 93
4) 83

Pages 3

1) 232
2) 545
3) 361
4) 343

Pages 4

1) 383
2) 536
3) 834
4) 435

Pages 5-6

1) 3,494
2) 4,602
3) 8,740
4) 7,909

Pages 7-8

1) 5,385
2) 8,805
3) 6,762
4) 6,386

Pages 9-10

1) 96.91
2) 42.81
3) 80.27
4) 83.03

Pages 11-12

1) 9
2) 7.4
3) 9.4
4) 6.2

Pages 13-14

1) 7,420
2) 2,013
3) 8,930
4) 6,970

# 2-Digit Column Subtraction

Step 1

| | 10s | 1s |
|---|---|---|
| | 8 | 5 |
| - | | 6 |
| | | |

Step 2

| | 10s | 1s |
|---|---|---|
| | 7 | |
| | ~~8~~ | 15 |
| - | | 6 |
| | | |

Step 3

| | 10s | 1s |
|---|---|---|
| | 7 | |
| | ~~8~~ | 15 |
| - | | 6 |
| | | 9 |

Step 4

| | 10s | 1s |
|---|---|---|
| | 7 | |
| | ~~8~~ | 15 |
| - | | 6 |
| | 7 | 9 |

Step 1

First, write 85 - 6 in the correct **place value columns** of the **10s** and **1s**.
Subtract each column, starting with the **1s** column.

Step 2

Then, in the **1s** column, 5 - 6, you cannot do this as 5 is a **lower value** than 6.
**Exchange/regroup 1 ten** into **10 ones** from the **10s** column to the **1s** column.
Cross out the 8 **tens** and write **7 tens** above.
Write the **exchanged/regrouped 1 ten** next to the 5 **ones** to make 15 **ones**.

Step 3

Next, in the **1s** column, 15 - 6, equals 9 **ones** (**9**).
Write **9** in the **total value** of the **1s** column.

Step 4

Then, in the **10s** column, **7** subtract nothing, equals 7 **tens** (**70**).
Write **7** in the **total value** of the **10s** column.
**Difference** of 85 - 6 is **79**.

# 2-Digit Column Subtraction

Step 1

| | 10s | 1s |
|---|---|---|
| | 9 | 2 |
| - | 6 | 3 |
| | | |

Step 2

| | 10s | 1s |
|---|---|---|
| | 8 | |
| | ~~9~~ | 12 |
| - | 6 | 3 |
| | | |

Step 3

| | 10s | 1s |
|---|---|---|
| | 8 | |
| | ~~9~~ | 12 |
| - | 6 | 3 |
| | | 9 |

Step 4

| | 10s | 1s |
|---|---|---|
| | 8 | |
| | ~~9~~ | 12 |
| - | 6 | 3 |
| | 2 | 9 |

Step 1

First, write 92 - 63 in the correct **place value columns** of the **10s** and **1s**.
Subtract each column, starting with the **1s** column.

Step 2

Then, in the **1s** column, 2 - 3, you cannot do this as 2 is a **lower value** than 3.
**Exchange/regroup 1 ten** into **10 ones** from the **10s** column to the **1s** column.
Cross out the 9 **tens** and write **8 tens** above.
Write the **exchanged/regrouped 1 ten** next to the 2 **ones** to make 12 **ones**.

Step 3

Next, in the **1s** column, 12 - 3, equals 9 **ones** (9).
Write **9** in the **total value** of the **1s** column.

Step 4

Then, in the **10s** column, **8** - 6, equals 2 **tens** (**20**).
Write **2** in the **total value** of the **10s** column.
**Difference** of 92 - 63 is **29**.

# 3-Digit Column Subtraction

Step 1

| | 100s | 10s | 1s |
|---|---|---|---|
| | 4 | 8 | 5 |
| - | 2 | 9 | 6 |
| | | | |

Step 2

| | 100s | 10s | 1s |
|---|---|---|---|
| | | 7 | |
| | 4 | ~~8~~ | 15 |
| - | 2 | 9 | 6 |
| | | | |

Step 3

| | 100s | 10s | 1s |
|---|---|---|---|
| | | 7 | |
| | 4 | ~~8~~ | 15 |
| - | 2 | 9 | 6 |
| | | | 9 |

Step 4

| | 100s | 10s | 1s |
|---|---|---|---|
| | 3 | 17 | |
| | ~~4~~ | ~~8~~ | 15 |
| - | 2 | 9 | 6 |
| | | | 9 |

Step 5

| | 100s | 10s | 1s |
|---|---|---|---|
| | 3 | 17 | |
| | ~~4~~ | ~~8~~ | 15 |
| - | 2 | 9 | 6 |
| | | 8 | 9 |

Step 6

| | 100s | 10s | 1s |
|---|---|---|---|
| | 3 | 17 | |
| | ~~4~~ | ~~8~~ | 15 |
| - | 2 | 9 | 6 |
| | 1 | 8 | 9 |

Step 1

First, write 485 - 296 in the correct **place value columns** of the **100s**, **10s** and **1s**.
Subtract each column, starting with the **1s** column.

Step 2

Then, in the **1s** column, 5 - 6, you cannot do this as 5 is a **lower value** than 6.
**Exchange/regroup 1 ten** into **10 ones** from the **10s** column to the **1s** column.
Cross out the 8 **tens** and write **7 tens** above.
Write the **exchanged/regrouped 1 ten** next to the 5 **ones** to make 15 **ones**.

Step 3

Next, in the **1s** column, 15 - 6, equals 9 **ones** (**9**).
Write **9** in the **total value** of the **1s** column.

Step 4

Then, in the **10s** column, **7** - 9, you cannot do this as **7** is a **lower value** than 9.
**Exchange/regroup 1 hundred** into **10 tens** from the **100s** column to the **10s** column.
Cross out the 4 **hundreds** and write **3 hundreds** above.
Write the **exchanged/regrouped 1 hundred** next to the **7 tens** to make **17 tens**.

Step 5

Next, in the **100s** column, **17** - 9, equals 8 **tens** (**80**).
Write **8** in the **total value** of the **100s** column.

Step 6

Finally, in the **100s** column, **3** - 2, equals 1 **hundred** (**100**).
Write **1** in the **total value** of the **100s** column.
**Difference** of 485 - 296 is **549**.

# 3-Digit Column Subtraction

Step 1

| | 100s | 10s | 1s |
|---|---|---|---|
| | 8 | 0 | 4 |
| - | 5 | 6 | 8 |
| | | | |

Step 2

| | 100s | 10s | 1s |
|---|---|---|---|
| | 7 | | |
| | ~~8~~ | 10 | 4 |
| - | 5 | 6 | 8 |
| | | | |

Step 3

| | 100s | 10s | 1s |
|---|---|---|---|
| | 7 | 9 | |
| | ~~8~~ | 10 | 14 |
| - | 5 | 6 | 8 |
| | | | |

Step 4

| | 100s | 10s | 1s |
|---|---|---|---|
| | 7 | 9 | |
| | ~~8~~ | 10 | 14 |
| - | 5 | 6 | 8 |
| | | | 6 |

Step 5

| | 100s | 10s | 1s |
|---|---|---|---|
| | 7 | 9 | |
| | ~~8~~ | 10 | 14 |
| - | 5 | 6 | 8 |
| | | 3 | 6 |

Step 6

| | 100s | 10s | 1s |
|---|---|---|---|
| | 7 | 9 | |
| | ~~8~~ | 10 | 14 |
| - | 5 | 6 | 8 |
| | 2 | 3 | 6 |

Step 1

First, write 804 - 568 in the correct **place value columns** of the **100s**, **10s** and **1s**.
Subtract each column, starting with the **1s** column.

Step 2

Then, in the **1s column**, 4 - 8, you cannot do this as 4 is a **lower value** than 8.
From the **10s column**, **exchange/regroup** 1 **ten** from the 0 **tens,** you cannot do this as the value of the **tens** is zero.
Instead, **exchange/regroup** 1 **hundred** into 10 **tens** from the **100s** column to the **10s** column.
Cross out the 8 **hundreds** and write **7** **hundreds** above.
Write the **exchanged/regrouped** 1 **hundred** next to the 0 **tens** to make 10 **tens**.

Step 3

Next, **exchange/regroup** 1 **ten** into 10 **ones** from the **10s** column to the **1s** column.
Cross out the 10 **tens** and write **9** **tens** above.
Write the **exchanged/regrouped** 1 **ten** next to the 4 **ones** to make 14 **ones**.

Step 4

Then, in the **1s** column, 14 - 8, equals 6 **ones** (**6**).
Write **6** in the **total value** of the **1s** column.

Step 5

Next, in the **10s** column, **9** - 6, equals 3 **tens** (**30**).
Write **3** in the **total value** of the **10s** column.

Step 6

Finally, in the **100s** column, **7** - 5, equals 2 **hundreds** (**200**).
Write **2** in the **total value** of the **100s** column.
**Difference** of 804 - 568 is **236**.

# 3-Digit Column Subtraction

Step 1

| | 100s | 10s | 1s |
|---|---|---|---|
| | 3 | 0 | 0 |
| - | | 9 | 4 |
| | | | |

Step 2

| | 100s | 10s | 1s |
|---|---|---|---|
| | | 2 | |
| | 3 | 10 | 0 |
| - | | 9 | 4 |
| | | | |

Step 3

| | 100s | 10s | 1s |
|---|---|---|---|
| | 2 | 9 | |
| | 3 | 10 | 10 |
| - | | 9 | 4 |
| | | | |

Step 4

| | 100s | 10s | 1s |
|---|---|---|---|
| | 2 | 9 | |
| | 3 | 10 | 10 |
| - | | 9 | 4 |
| | | | 6 |

Step 5

| | 100s | 10s | 1s |
|---|---|---|---|
| | 2 | 9 | |
| | 3 | 10 | 10 |
| - | | 9 | 4 |
| | | 0 | 6 |

Step 6

| | 100s | 10s | 1s |
|---|---|---|---|
| | 2 | 9 | |
| | 3 | 10 | 10 |
| - | | 9 | 4 |
| | 2 | 0 | 6 |

Step 1

First, write 300 - 94 in the correct **place value columns** of the **100s**, **10s** and **1s**.
Subtract each column, starting with the **1s** column.

Step 2

Then, in the **1s column**, 0 - 4, you cannot do this as 0 is a **lower value** than 4.
From the **10s column**, **exchange/regroup** 1 **ten** from the 0 **tens,** you cannot do this as the **value** of the **tens** is zero.
Instead, **exchange/regroup** 1 **hundred** into 10 **tens** from the **100s** column to the **10s** column.
Cross out the 3 **hundreds** and write **2** **hundreds** above.
Write the **exchanged/regrouped** 1 **hundred** next to the 0 **tens** to make 10 **tens**.

Step 3

Next, **exchange/regroup** 1 **ten** into 10 **ones** from the **10s** column to the **1s** column.
Cross out the 10 **tens** and write **9** **tens** above.
Write the **exchanged/regrouped** 1 **ten** next to the 0 **ones** to make 10 **ones**.

**Step 4**

Then, in the **1s** column, 10 - 4, equals 6 **ones** (**6**).
Write **6** in the **total value** of the **1s** column.

Step 5

Next, in the **10s** column, **9** - 9, equals 0 **tens** (**0**).
Write **0** in the **total value** of the **10s column**.

Step 6

Finally, in the **100s column**, **2** - 0, equals 2 **hundreds** (**200**).
Write **2** in the **total value** of the **100s column**.
**Difference** of 300 - 94 is **206**.

# 4-Digit Column Subtraction

Step 1

| | 100s | 100s | 10s | 1s |
|---|---|---|---|---|
| | 7 | 2 | 5 | 1 |
| - | 6 | 9 | 3 | 8 |
| | | | | |

Step 2

| | 100s | 100s | 10s | 1s |
|---|---|---|---|---|
| | | | 4 | |
| | 7 | 2 | ~~5~~ | 11 |
| - | 6 | 9 | 3 | 8 |
| | | | | |

Step 3

| | 100s | 100s | 10s | 1s |
|---|---|---|---|---|
| | | | 4 | |
| | 7 | 2 | ~~5~~ | 11 |
| - | 6 | 9 | 3 | 8 |
| | | | 1 | 3 |

Step 4

| | 100s | 100s | 10s | 1s |
|---|---|---|---|---|
| | 6 | | 4 | |
| | ~~7~~ | 12 | ~~5~~ | 11 |
| - | 6 | 9 | 3 | 8 |
| | | | 1 | 3 |

Step 5

| | 100s | 100s | 10s | 1s |
|---|---|---|---|---|
| | 6 | | 4 | |
| | ~~7~~ | 12 | ~~5~~ | 11 |
| - | 6 | 9 | 3 | 8 |
| | 0 | 3 | 1 | 3 |

Step 1

First, write 7,251 - 6,938 in the correct **place value columns** of the **1,000s**, **100s**, **10s** and **1s**.

Subtract each column, starting with the **1s** column.

Step 2

Then, in the **1s column**, 1 - 8, you cannot do this as 1 is a **lower value** than 8.

**Exchange/regroup 1 ten** into **10 ones** from the **10s** column to the **1s** column.

Cross out the 5 **tens** and write **4 tens** above.

Write the **exchanged/regrouped 1 ten** next to the 1 **ones** to make 11 **ones**.

Step 3

Next, in the **1s** column, **11** - 8, equals 3 **ones** (**3**).

Write **3** in the **total value** of the **1s** column.

Then, in the **10s** column, **4** - 3, equals 1 **ten** (**10**).

Write **1** in the **total value** of the **10s** column.

Step 4

Next, in the **100s column**, 2 - 9, you cannot do this as 2 is a **lower value** than 9.

**Exchange/regroup 1 thousand** into **10 hundreds** from the **1,000s** column to the **100s** column.

Cross out the 7 **thousands** and write **6 thousands** above.

Write the **exchanged/regrouped 1 thousand** next to the 2 **hundreds** to make 12 **hundreds**.

Step 5

Then, in the **100s** column, 12 - 9, equals 3 **hundreds** (**300**).

Write **3** in the **total value** of the **100s** column.

Finally, in the **1,000s** column, **6** - 6, equals **0 thousands** (**0**).

Write **0** in the **total value** of the **1,000s** column.

**Difference** of 7,251 - 6,938 is **313**.

# 4-Digit Column Subtraction

Step 1

| | 100s | 100s | 10s | 1s |
|---|---|---|---|---|
| | 9 | 0 | 0 | 0 |
| - | 5 | 6 | 2 | 7 |
| | | | | |

Step 2

| | 100s | 100s | 10s | 1s |
|---|---|---|---|---|
| | 8 | | | |
| | ~~9~~ | 10 | 0 | 0 |
| - | 5 | 6 | 2 | 7 |
| | | | | |

Step 3

| | 100s | 100s | 10s | 1s |
|---|---|---|---|---|
| | 8 | 9 | | |
| | ~~9~~ | 10 | 10 | 0 |
| - | 5 | 6 | 2 | 7 |
| | | | | |

Step 4

| | 100s | 100s | 10s | 1s |
|---|---|---|---|---|
| | 8 | 9 | 9 | |
| | ~~9~~ | 10 | 10 | 10 |
| - | 5 | 6 | 2 | 7 |
| | | | | |

Step 5

| | 100s | 100s | 10s | 1s |
|---|---|---|---|---|
| | 8 | 9 | 9 | |
| | ~~9~~ | 10 | 10 | 10 |
| - | 5 | 6 | 2 | 7 |
| | 3, | 3 | 7 | 3 |

Step 1

First, write 9,000 - 5,627 in the correct **place value columns** of the **1,000s**, **100s**, **10s** and **1s**. Subtract each column, starting with the **1s** column.

Step 2

Then, in the **1s column**, 0 - 7, you cannot do this as 0 is a **lower value** than 7.
From the **10s column**, **exchange/regroup** 1 **ten** from the 0 **tens,** you cannot do this as the **value** of the **tens** is zero.
From the **100s column**, **exchange/regroup** 1 **hundred** from the 0 **hundreds,** you cannot do this as the **value** of the **hundreds** is zero.
Instead, **exchange/regroup 1 thousand** into **10 hundreds** from the **1,000s** column to the **100s** column.
Cross out the 9 **thousands** and write **8 thousands** above.
Write the **exchanged/regrouped 1 thousand** next to the 0 **hundreds** to make 10 **hundreds**.

Step 3

Next, **exchange/regroup 1 hundred** into **10 tens** from the **100s** column to the **10s** column. Cross out the 10 **hundreds** and write **9 hundreds** above.
Write the **exchanged/regrouped 1 hundred** next to the 0 **tens** to make 10 **tens**.

Step 4

Then, **exchange/regroup 1 ten** into **10 ones** from the **10s** column to the **1s** column.
Cross out the 10 **tens** and write **9 tens** above.
Write the **exchanged/regrouped 1 ten** next to the 0 **ones** to make 10 **ones**.

Step 5

Then, in the **1s** column, 10 - 7, equals 3 **ones** (**3**).
Write **3** in the **total value** of the **1s** column.
Next, in the **10s** column, **9** - 2, equals **7 tens** (**70**).
Write **7** in the **total value** of the **10s** column.
Then, in the **100s** column, **9** - 6, equals 3 **hundreds** (**300**).
Write **3** in the **total value** of the **100s** column.
Finally, in the **1,000s** column, **8** - 5, equals **3 thousands** (**3,000**).
Write **3** in the **total value** of the **1,000s** column. **Difference** of 9,000 - 5,627 is **3,373**.

# Column Subtraction with Decimals

Step 1

| | 10s | 1s | 10ths | 100ths |
|---|---|---|---|---|
| | 7 | 9 | . 5 | 4 |
| - | 2 | 9 | . 6 | 1 |
| | | | . | |

Step 2

| | 10s | 1s | 10ths | 100ths |
|---|---|---|---|---|
| | 7 | ~~9~~ | . 5 | 4 |
| - | 2 | 9 | . 6 | 1 |
| | | | . | 3 |

Step 3

| | 10s | 1s | 10ths | 100ths |
|---|---|---|---|---|
| | | 8 | | |
| | 7 | ~~9~~ | .15 | 4 |
| - | 2 | 9 | . 6 | 1 |
| | | | . | 3 |

Step 4

| | 10s | 1s | 10ths | 100ths |
|---|---|---|---|---|
| | | 8 | | |
| | 7 | ~~9~~ | .15 | 4 |
| - | ~~9~~ | 9 | . 6 | 1 |
| | | | . 9 | 3 |

Step 5

| | 10s | 1s | 10ths | 100ths |
|---|---|---|---|---|
| | 6 | 18 | | |
| | ~~7~~ | ~~9~~ | .15 | 4 |
| - | 2 | 9 | . 6 | 1 |
| | | | . 9 | 3 |

Step 6

| | 10s | 1s | 10ths | 100ths |
|---|---|---|---|---|
| | 6 | 18 | | |
| | ~~7~~ | ~~9~~ | .15 | 4 |
| - | 2 | 9 | . 6 | 1 |
| | | 9 | . 9 | 3 |

Step 7

| | 10s | 1s | 10ths | 100ths |
|---|---|---|---|---|
| | 6 | 18 | | |
| | ~~7~~ | ~~9~~ | .15 | 4 |
| - | 2 | 9 | . 6 | 1 |
| | 4 | 9 | . 9 | 3 |

Step 1

First, write 79.54 - 24.61 in the correct **place value columns** of the **10s**, **1s** and **10ths.**

Subtract each column, starting with the **10ths** column.

Step 2

Next, in the **100ths** column, 4 - 1, equals **3 hundredths** (**0.03**).

Write **3** in the **total value** of the **100ths** column.

Step 3

Then, in the **10ths column**, 5 - 6, you cannot do this as 5 is a **lower value** than 6.

**Exchange/regroup 1 one** into **10 tenths** from the **1s** column to the **10ths** column.

Cross out the 9 **ones** and write **8 ones** above.

Write the **exchanged/regrouped 1 one** next to the 5 **tenths** to make 15 tenths.

Step 4

Next, in the **10ths** column, 15 - 6, equals 9 **tenths** (**0.9**).

Write **9** in the **total value** of the **10ths** column.

Step 5

Then, in the **1s column**, **8** - 9, you cannot do this as **8** is a **lower value** than 9.

**Exchange/regroup 1 ten** into **10 ones** from the **10s** column to the **1s** column.

Cross out the 7 **tens** and write **6 tens** above.

Write the **exchanged/regrouped 1 ten** next to the **8 ones** to make **18 ones**.

Step 6

Next, in the **1s** column, **18** - 9, equals 9 **ones** (**9**).

Write **9** in the **total value** of the **1s** column.

Step 7

Lastly, in the **10s** column, **6** - 2, equals **4 tens** (**4**).

Write **4** in the **total value** of the **10s** column.

**Difference** of 79.54 - 29.61 is **49.93**.

# Column Subtraction with Decimals

Step 1

| | 1s | 10ths | 100ths | 1000ths |
|---|---|---|---|---|
| | 8 | . 5 | 0 | 0 |
| - | 6 | . 4 | 2 | 3 |
| | | . | | |

Step 2

| | 1s | 10ths | 100ths | 1000ths |
|---|---|---|---|---|
| | | 4 | | |
| | 8 | . ~~5~~ | 10 | 0 |
| - | 6 | . 4 | 2 | 3 |
| | | . | | |

Step 3

| | 1s | 10ths | 100ths | 1000ths |
|---|---|---|---|---|
| | | 4 | 9 | |
| | 8 | . ~~5~~ | 1~~0~~ | 10 |
| - | 6 | . 4 | 2 | 3 |
| | | . | | |

Step 4

| | 1s | 10ths | 100ths | 1000ths |
|---|---|---|---|---|
| | | 4 | 9 | |
| | 8 | . ~~5~~ | 1~~0~~ | 10 |
| - | 6 | . 4 | 2 | 3 |
| | | . | | 7 |

Step 5

| | 1s | 10ths | 100ths | 1000ths |
|---|---|---|---|---|
| | | 4 | 9 | |
| | 8 | . ~~5~~ | 1~~0~~ | 10 |
| - | 6 | . 4 | 2 | 3 |
| | | . | 7 | 7 |

Step 6

| | 1s | 10ths | 100ths | 1000ths |
|---|---|---|---|---|
| | | 4 | 9 | |
| | 8 | . ~~5~~ | 1~~0~~ | 10 |
| - | 6 | . 4 | 2 | 3 |
| | | . 0 | 7 | 7 |

Step 7

| | 1s | 10ths | 100ths | 1000ths |
|---|---|---|---|---|
| | | 4 | 9 | |
| | 8 | . ~~5~~ | 1~~0~~ | 10 |
| - | 6 | . 4 | 2 | 3 |
| | 2 | . 0 | 7 | 7 |

Step 1

First, write 8.500 - 6.423 in the correct **place value columns** of the **1s**, **10ths**, **100ths** and **1000ths**.

Subtract each column, starting with the **1000ths** column.

Step 2

Then, in the **1000ths column**, 0 - 3, you cannot do this as 0 is a **lower value** than 3.
From the **100ths column**, **exchange/regroup** 1 **hundredths** from the 0 **hundredths,** you cannot do this as the **value** of the **hundredths** is zero.
Instead, **exchange/regroup 1 tenth** into **10 hundredths** from the **10ths** column to the **100ths** column.
Cross out the 5 **tenths** and write **4 tenths** above.
Write the **exchanged/regrouped 1 tenth** next to the 0 **hundredths** to make 10 **hundredths**.

Step 3

Next, **exchange/regroup 1 hundredth** into **10** thousandths from the **100ths** column to the **1000ths** column.
Cross out the 10 **tens** and write **9 tens** above.
Write the **exchanged/regrouped 1 hundredth** next to the 0 **thousandths** to make 10 thousandths.

Step 4

Next, in the **1000ths** column, 10 - 3, equals **7 thousandths** (**0.007**).
Write **7** in the **total value** of the **1000ths** column.

Step 5

Then, in the **10ths** column, **9** - 2, equals 7 **hundredths** (**0.07**).
Write **7** in the **total value** of the **100ths** column.

Step 6

Next, in the **10ths** column, **4** - 4, equals **0 tenths** (**0.0**).
Write **0** in the **total value** of the **10ths** column.

Step 7

Lastly, in the **1s** column, **8** - 6, equals **2 ones** (**2**).
Write **2** in the **total value** of the **1s** column.
**Difference** of 8.500 - 6.423 is **2.077**.

# Questions

## Pages 17

1) 95 - 6 =
2) 57 - 8 =
3) 73 - 9 =
4) 65 - 7 =

## Pages 18

1) 63 - 49 =
2) 84 - 26 =
3) 57 - 28 =
4) 95 - 46 =

## Pages 19-20

1) 693 - 244 =
2) 568 - 394 =
3) 750 - 653 =
4) 730 - 448 =

## Pages 21-22

1) 606 - 487 =
2) 905 - 635 =
3) 304 - 164 =
4) 508 - 249 =

## Pages 23-24

1) 400 - 93 =
2) 200 - 83 =
3) 700 - 47 =
4) 800 - 52 =

## Pages 25-26

1) 5,713 - 2,244 =
2) 6,268 - 3,394 =
3) 8,450 - 1,653 =
4) 6,405 - 3,635 =

## Pages 27-28

1) 3,000 - 2,448 =
2) 4,000 - 2,938 =
3) 7,000 - 4,837 =
4) 5,000 - 3,568 =

## Pages 29-30

1) 71.13 - 42.24 =
2) 86. 26 - 53.39 =
3) 98.45 - 71.65 =
4) 69.40 - 38.65 =

## Pages 31-32

1) 6.213 - 3.124 =
2) 4.627 - 2.548 =
3) 6.623 - 1.554 =
4) 9.206 - 3.487 =

# Answers

## Pages 17

1) 89
2) 49
3) 64
4) 58

## Pages 18

1) 14
2) 58
3) 29
4) 49

## Pages 19-20

1) 449
2) 174
3) 97
4) 282

## Pages 21-22

1) 119
2) 270
3) 140
4) 259

## Pages 23-24

1) 307
2) 117
3) 653
4) 748

## Pages 25-26

1) 3,469
2) 2,874
3) 6,797
4) 2,770

## Pages 27-28

1) 552
2) 1,062
3) 2,163
4) 1,432

## Pages 29-30

1) 28.9
2) 32.9
3) 26.8
4) 30.8

## Pages 31-32

1) 3.089
2) 2.079
3) 5.069
4) 5.719

# Grid Method 2-digit x 1-digit

Step 1

| | 10s | 1s |
|---|---|---|
| x | 10 | 5 |
| 3 | | |

Step 2

| | 10s | 1s |
|---|---|---|
| x | 10 | 5 |
| 3 | | 15 |

Step 3

| | 10s | 1s |
|---|---|---|
| x | 10 | 5 |
| 3 | 30 | 15 |

Step 4

| | 10s | 1s |
|---|---|---|
| | 1 | 5 |
| + | 3 | 0 |
| | 4 | 5 |

Step 1

**Partition** 15 x 3 and write the **values** in the **grid** correctly.

15 is partitioned into the **digit values** of **10s** and **1s**, 10 + 5.

First, write 10 and 5 in the **horizontal** boxes of the grid and write 3 in the **vertical** box of the grid.

Step 2

Then, multiply the **multiplicand** 5 by 3 the **multiplier**, equals **15 ones** or **1 ten** and **5 ones**.

Write **15** in the **total value** of the **1s** grid column.

Step 3

Next, multiply the **multiplicand** 10 by 3 the **multiplier**, equals **30 ones** or **3 tens**.

Write **30** in the **total value** of the **10s** grid column.

Step 4

Use **Column Addition** to add **altogether** the **total values**, **15** + **30**.

Then, in the **1s** column add **altogether**, **5** + **0**, equals 5 **ones** (**5**).

Write **5** in the **total value** of the **1s** column.

Finally, in the **10s** column add **altogether**, **1** + **3**, equals 4 **tens** (**40**).

Write **4** in the **total value** of the **10s** column.

**Product** of 15 x 3 is **45**.

# Grid Method 3-digit x 1-digit

Step 1

| | 100s | 10s | 1s |
|---|---|---|---|
| x | 200 | 50 | 3 |
| 4 | | | |

Step 2

| | 100s | 10s | 1s |
|---|---|---|---|
| x | 200 | 50 | 3 |
| 4 | | | 12 |

Step 3

| | 100s | 10s | 1s |
|---|---|---|---|
| x | 200 | 50 | 3 |
| 4 | | 200 | 12 |

Step 4

| | 100s | 10s | 1s |
|---|---|---|---|
| x | 200 | 50 | 3 |
| 4 | 800 | 200 | 12 |

Step 5

| | 1000s | 100s | 10s | 1s |
|---|---|---|---|---|
| | | | 1 | 2 |
| | | 2 | 0 | 0 |
| + | | 8 | 0 | 0 |
| | 1, | 0 | 1 | 2 |
| | 1 | | | |

Step 1

**Partition** 253 x 4 and write the **values** in the **grid** correctly.

253 is partitioned into the **digit values** of **100s**, **10s** and **1s**, 200 + 50 + 3.

First, write 200, 50 and 3 in the **horizontal** boxes of the grid and write 4 in the **vertical** box of the grid.

Step 2

Then, multiply the **multiplicand** 3 by 4 the **multiplier**, equals **12 ones** or **1 ten** and **2 ones**.

Write **12** in the **total value** of the **1s** grid column.

Step 3

Next, multiply the **multiplicand** 50 by 4 the **multiplier**, equals **200 ones** or **2 hundreds**.

Write **200** in the **total value** of the **10s** grid column.

Step 4

Then, multiply the **multiplicand** 200 by 4 the **multiplier**, equals **800 ones** or **8 hundreds**.

Write **800** in the **total value** of the **100s** grid column.

Step 5

Use **Column Addition** to add **altogether** the **total values**, **12** + **200** + **800**.

Then, in the **1s** column add **altogether**, **2** + **0** + **0**, equals 2 **ones** (**2**).

Write **2** in the **total value** of the **1s** column.

Next, in the **10s** column add **altogether**, **1** + **0** + **0**, equals 1 **ten** (**10**).

Write **1** in the **total value** of the **10s** column.

Then, in the **100s** column add **altogether**, **2** + **8**, equals 10 **hundreds** (**1,000** + **0**).

Write **0** in the **total value** of the **100s** column.

**Exchange/regroup** the 10 **hundreds** into **1 thousand** from the **100s** column to the **1,000s** column.

Next, in the **1,000s** column add **altogether**, **1**, equals 1 **thousand** (**1,000**).

Write **1** in the **total value** of the **1,000s** column.

**Product** of 253 x 4 is **1,012**.

# Grid Method 4-digit x 1-digit

Step 1

| | 1,000s | 100s | 10s | 1s |
|---|---|---|---|---|
| x | 3,000 | 200 | 40 | 8 |
| 5 | | | | |

Step 2

| | 1,000s | 100s | 10s | 1s |
|---|---|---|---|---|
| x | 3,000 | 200 | 40 | 8 |
| 5 | | | | 40 |

Step 3

| | 1,000s | 100s | 10s | 1s |
|---|---|---|---|---|
| x | 3,000 | 200 | 40 | 8 |
| 5 | | | 200 | 40 |

Step 4

| | 1,000s | 100s | 10s | 1s |
|---|---|---|---|---|
| x | 3,000 | 200 | 40 | 8 |
| 5 | | 1,000 | 200 | 40 |

Step 5

| | 1,000s | 100s | 10s | 1s |
|---|---|---|---|---|
| x | 3,000 | 200 | 40 | 8 |
| 5 | 15,000 | 1,000 | 200 | 40 |

Step 6

| | 10,000s | 1,000s | 100s | 10s | 1s |
|---|---|---|---|---|---|
| | | | | 4 | 0 |
| | | | 2 | 0 | 0 |
| + | | 1 | 0 | 0 | 0 |
| | 1 | 5 | 0 | 0 | 0 |
| | 1 | 6, | 2 | 4 | 0 |

Step 1

**Partition** 3,248 x 5 and write the **values** in the **grid** correctly.

3,248 is partitioned into the **digit values** of **1,000s**, **100s**, **10s** and **1s**,

3,000 + 200 + 40 + 8.

First, write 3,000, 200, 40 and 8 in the **horizontal** boxes of the grid and write 5 in the **vertical** box of the grid.

Step 2

Then, multiply the **multiplicand** 8 by 5 the **multiplier**, equals **40 ones** or **4 tens**.
Write **40** in the **total value** of the **1s** grid column.

Step 3

Next, multiply the **multiplicand** 40 by 5 the **multiplier**, equals **200 ones** or **2 hundreds**.
Write **200** in the **total value** of the **10s** grid column.

Step 4

Then, multiply the **multiplicand** 200 by 5 the **multiplier**, equals **1,000 ones** or **1 thousand**.
Write **1,000** in the **total value** of the **100s** grid column.

Step 5

Next, multiply the **multiplicand** 3,000 by 5 the **multiplier**, equals **15,000 ones** or **1 ten thousand** and **5 thousand**.
Write **15,000** in the **total value** of the **1,000s** grid column.

Step 6

Use **Column Addition** to add **altogether** the **total values**, **40** + **200** + **1,000** + **15,000**.
Then, in the **1s** column add **altogether**, **0** + **0** + **0** + **0**, equals 0 **ones** (**0**).
Write **0** in the **total value** of the **1s** column.
Next, in the **10s** column add **altogether**, **4** + **0** + **0** + **0**, equals 4 **tens** (**40**).
Write **4** in the **total value** of the **10s** column.
Then, in the **100s** column add **altogether**, **2** + **0** + **0**, equals 2 **hundreds** (**200**).
Write **2** in the **total value** of the **100s** column.
Next, in the **1,000s** column add **altogether**, **1** + **5**, equals 6 **thousands** (**6,000**).
Write **6** in the **total value** of the **1,000s** column.
Then, in the **10,000s** column add **altogether**, **1**, equals 1 **ten thousand** (**10,000**).
Write **1** in the **total value** of the **10,000s** column.
**Product** of 3,248 x 5 is **16,240**.

# Grid Method 2-digit x 2-digit

Step 1

| x | 10s | 1s |
|---|---|---|
| 10 | | |
| 5 | | |

Step 2

| x | 10s | 1s |
|---|---|---|
| 10 | | |
| 5 | | 20 |

Step 3

| x | 10s | 1s |
|---|---|---|
| 10 | | |
| 5 | 100 | 20 |

Step 4

| x | 10s | 1s |
|---|---|---|
| 10 | | 40 |
| 5 | 100 | 20 |

Step 5

| x | 10s | 1s |
|---|---|---|
| 10 | 200 | 40 |
| 5 | 100 | 20 |

Step 6

| | 100s | 10s | 1s |
|---|---|---|---|
| | | 2 | 0 |
| | | 4 | 0 |
| + | 1 | 0 | 0 |
| | 2 | 0 | 0 |
| | 3 | 6 | 0 |

Step 1

**Partition** 24 x 15 and write the **values** in the **grid** correctly.

24 is partitioned into the **digit values** of **10s** and **1s**, 20 + 4.

15 is partitioned into the **digit values** of **10s** and **1s**, 10 + 5.

First, write 20 and 4 in the **horizontal** boxes of the grid and write 10 and 5 in the **vertical** boxes of the grid.

Step 2

Then, multiply the **multiplicand** 4 by 5 the **multiplier**, equals **20 ones** or **2 tens.**

Write **20** in the **total value** of the **1s** grid column.

Step 3

Next, multiply the **multiplicand** 20 by 5 the **multiplier**, equals **100 ones** or **1 hundred**.

Write **100** in the **total value** of the **10s** grid column.

Step 4

Then, multiply the **multiplicand** 4 by 10 the **multiplier**, equals **40 ones** or **4 tens**.

Write **40** in the **total value** of the **1s** grid column.

Step 5

Next, multiply the **multiplicand** 20 by 10 the **multiplier**, equals **200 ones** or **2 hundreds**.

Write **200** in the **total value** of the **10s** grid column.

Step 6

Use **Column Addition** to add **altogether** the **total values**, **20** + **40** + **100** + **200**.

Then, in the **1s** column add **altogether**, **0** + **0** + **0** + **0**, equals 0 **ones** (**0**).

Write **0** in the **total value** of the **1s** column.

Next, in the **10s** column add **altogether**, **2** + **4** + **0** + **0**, equals 6 **tens** (**60**).

Write **6** in the **total value** of the **10s** column.

Finally, in the **100s** column add **altogether**, **1** + **2**, equals 3 **hundreds** (**300**).

Write **2** in the **total value** of the **100s** column.

**Product** of 24 x 15 is **360**.

# Grid Method 3-digit x 2-digit

Step 1

| x | 500 | 20 | 1 |
|---|---|---|---|
| 40 | | | |
| 6 | | | |

Step 2

| x | 500 | 20 | 1 |
|---|---|---|---|
| 40 | | | |
| 6 | | | 6 |

Step 3

| x | 500 | 20 | 1 |
|---|---|---|---|
| 40 | | | |
| 6 | | 120 | 6 |

Step 4

| x | 500 | 20 | 1 |
|---|---|---|---|
| 40 | | | |
| 6 | 3,000 | 120 | 6 |

Step 5

| x | 500 | 20 | 1 |
|---|---|---|---|
| 40 | | | 40 |
| 6 | 3,000 | 120 | 6 |

Step 6

| x | 500 | 20 | 1 |
|---|---|---|---|
| 40 | | 800 | 40 |
| 6 | 3,000 | 120 | 6 |

Step 7

| x | 500 | 20 | 1 |
|---|---|---|---|
| 40 | 20,000 | 800 | 40 |
| 6 | 3,000 | 120 | 6 |

Step 8

| | 1000s | 100s | 10s | 1s |
|---|---|---|---|---|
| | | | | 6 |
| | | | 4 | 0 |
| | | 1 | 2 | 0 |
| | | 8 | 0 | 0 |
| | 3 | 0 | 0 | 0 |
| + | 2 | 0 | 0 | 0 |
| | 2 | 3, | 9 | 6 | 6 |

Step 1

**Partition** 521 x 46 and write the **values** in the **grid** correctly.
521 is partitioned into the **digit values** of **100s**, 1**0s** and **1s**, 500 + 20 + 1.
46 is partitioned into the **digit values** of **10s** and **1s**, 40 + 6.
First, write 500, 20 and 1 in the **horizontal** boxes of the grid and write 40 and 6 in the **vertical** boxes of the grid.

Step 2

Then, multiply the **multiplicand** 1 by 6 the **multiplier**, equals **6 ones**.
Write **6** in the **total value** of the **1s** grid column.

Step 3

Next, multiply the **multiplicand** 20 by 6 the **multiplier**, equals **120 ones** or **1 hundred** and **2 tens**. Write **120** in the **total value** of the **10s** grid column.

Step 4

Then, multiply the **multiplicand** 500 by 6 the **multiplier**, equals **3,000 ones** or **3 thousands**. Write **3,000** in the **total value** of the **100s** grid column.

Step 5

Next, multiply the **multiplicand** 1 by 40 the **multiplier**, equals **40 ones** or **4 tens**.
Write **40** in the **total value** of the **1s** grid column.

Step 6

Then, multiply the **multiplicand** 20 by 40 the **multiplier**, equals **800 ones** or **8 hundreds**. Write **30** in the **total value** of the **10s** grid column.

Step 7

Next, multiply the **multiplicand** 500 by 40 the **multiplier**, equals **20,000 ones** or **2 ten thousands**. Write **20,000** in the **total value** of the **100s** grid column.

Step 8

Finally, use **Column Addition** to add **altogether** the **values** of, **6** + **40** + **120** + **800** + **3,000** + **20,000**.
**Product** of 521 x 46 is **23,966**.

# 2-Digit Ladder Method

Step 1

| | 100s | 10s | 1s |
|---|---|---|---|
| | | 2 | 9 |
| x | | | 7 |
| | | | |
| + | | | |
| | | | |

Step 2

| | 100s | 10s | 1s |
|---|---|---|---|
| | | 2 | 9 |
| x | | | 7 |
| | | 6 | 3 |
| + | | | |
| | | | |

Step 3

| | 100s | 10s | 1s |
|---|---|---|---|
| | | 2 | 9 |
| x | | | 7 |
| | | 6 | 3 |
| + | 1 | 4 | 0 |
| | | | |

Step 4

| | 100s | 10s | 1s |
|---|---|---|---|
| | | 2 | 9 |
| x | | | 7 |
| | | 6 | 3 |
| + | 1 | 4 | 0 |
| | 2 | 0 | 3 |
| | 1 | | |

Step 1

First, write 29 x 7 in the correct **place value columns** of the **10s** and **1s**, in a **column** layout and start multiplying in the **lowest term**, the **1s**.
29 **represents** the **digit values** of the **10s** and **1s**, 20 + 9.

Step 2

Then, multiply the **multiplicand** 9 by 7 the **multiplier**, equals **63 ones** (**60** + **3**).
Underneath the line in the first horizontal line of working out, write **3** in the **1s** column and write **6** in the **10s** column.

Step 3

Next, multiply the **multiplicand** 20 (2) by 7 the **multiplier**, equals **140 ones** (**100** + **40**).
Underneath the line in the second horizontal line of working out, write **0** in the **1s** column, write **4** in the **10s** column and write **1** in the **100s** column.

Step 4

Finally, use **Column Addition** to add altogether the **total values**, **63** + **140**.
In the **1s** column add **altogether**, **3** + **0**, equals 3 **ones** (**3**).
Write **3** in the **total value** of the **1s** column.
In the **10s** column add **altogether**, **6** + **4**, equals 10 **tens** (**100** + **0**).
Write **0** in the **total value** of the **10s** column.
**Exchange/regroup** the 10 **tens** into **1 hundred** from the **10s** column to the **100s** column.
In the **100s** column, write **1 hundred** underneath the **total value line** .
In the **100s** column add **altogether**, **1** + **1**, equals 2 **hundreds** (**200**).
Write **2** in the **total value** of the **100s** column.
**Product** of 29 x 7 is **203**.

# 3-Digit Ladder Method

Step 1

| | 100s | 10s | 1s |
|---|---|---|---|
| | 1 | 3 | 8 |
| x | | | 6 |
| | | | |
| | | | |
| + | | | |
| | | | |

Step 2

| | 100s | 10s | 1s |
|---|---|---|---|
| | 1 | 3 | 8 |
| x | | | 6 |
| | | 4 | 8 |
| | | | |
| + | | | |
| | | | |

Step 3

| | 100s | 10s | 1s |
|---|---|---|---|
| | 1 | 3 | 8 |
| x | | | 6 |
| | | 4 | 8 |
| | 1 | 8 | 0 |
| + | | | |
| | | | |

Step 4

| | 100s | 10s | 1s |
|---|---|---|---|
| | 1 | 3 | 8 |
| x | | | 6 |
| | | 4 | 8 |
| | 1 | 8 | 0 |
| + | 6 | 0 | 0 |
| | | | |

Step 5

| | 100s | 10s | 1s |
|---|---|---|---|
| | 1 | 3 | 8 |
| x | | | 6 |
| | | 4 | 8 |
| | 1 | 8 | 0 |
| + | 6 | 0 | 0 |
| | 8 | 2 | 8 |
| | 1 | | |

Step 1

First, write 138 x 6 in the correct **place value columns** of the **100s**, **10s** and **1s**, in a **column** layout and start multiplying in the **lowest term**, the **1s**.

138 **represents** the **digit values** of the **100s**, **10s** and **1s**, 100 + 30 + 8.

Step 2

Then, multiply the **multiplicand** 8 by 6 the **multiplier**, equals **48 ones** (**40** + **8**).

Underneath the line in the first horizontal line of working out, write **8** in the **1s** column and write **4** in the **10s** column.

Step 3

Next, multiply the **multiplicand** 30 (3) by 6 the **multiplier**, equals **180 ones** (**100** + **80**).

Underneath the line in the second horizontal line of working out, write **0** in the **1s** column, write **8** in the **10s** column and write **1** in the **100s** column.

Step 4

Then, multiply the **multiplicand** 100 (1) by 6 the **multiplier**, equals **600 ones** (**600**).

Underneath the line in the third horizontal line of working out, write **0** in the **1s** column, write **0** in the **10s column** and write **6** in the **100s** column.

Step 5

Finally, use **Column Addition** to add altogether the **total values**, **48** + **180** + **600**.

In the **1s** column add **altogether**, **8** + **0** + **0**, equals 8 **ones** (**8**).

Write **8** in the **total value** of the **1s** column.

In the **10s** column add **altogether**, **4** + **8** + **0**, equals 12 **tens** (**100** + **20**).

Write **2** in the **total value** of the **10s** column.

**Exchange/regroup** the 10 **tens** into **1 hundred** from the **10s** column to the **100s** column.

In the **100s** column, write **1 hundred** underneath the **total value line** .

In the **100s** column add **altogether**, **1** + **6** + **1**, equals 8 **hundreds** (**800**).

Write **8** in the **total value** of the **100s** column.

**Product** of 138 x 6 is **828**.

# 4-Digit Ladder Method

Step 1

| | 1,000s | 100s | 10s | 1s |
|---|---|---|---|---|
| | 1 | 8 | 4 | 7 |
| x | | | | 5 |
| | | | | |
| | | | | |
| + | | | | |
| | | | | |

Step 2

| | 1,000s | 100s | 10s | 1s |
|---|---|---|---|---|
| | 1 | 8 | 4 | 7 |
| x | | | | 5 |
| | | | 3 | 5 |
| | | | | |
| + | | | | |
| | | | | |

Step 3

| | 1,000s | 100s | 10s | 1s |
|---|---|---|---|---|
| | 1 | 8 | 4 | 7 |
| x | | | | 5 |
| | | | 3 | 5 |
| | | 2 | 0 | 0 |
| + | | | | |
| | | | | |

Step 4

| | 1,000s | 100s | 10s | 1s |
|---|---|---|---|---|
| | 1 | 8 | 4 | 7 |
| x | | | | 5 |
| | | | 3 | 5 |
| | | 2 | 0 | 0 |
| | 4 | 0 | 0 | 0 |
| + | | | | |
| | | | | |

Step 5

| | 1,000s | 100s | 10s | 1s |
|---|---|---|---|---|
| | 1 | 8 | 4 | 7 |
| x | | | | 5 |
| | | | 3 | 5 |
| | | 2 | 0 | 0 |
| | 4 | 0 | 0 | 0 |
| + | 5 | 0 | 0 | 0 |
| | | | | |

Step 6

| | 1,000s | 100s | 10s | 1s |
|---|---|---|---|---|
| | 1 | 8 | 4 | 7 |
| x | | | | 5 |
| | | | 3 | 5 |
| | | 2 | 0 | 0 |
| | 4 | 0 | 0 | 0 |
| + | 5 | 0 | 0 | 0 |
| | 9, | 2 | 3 | 5 |

Step 1

First, write 1,847 x 5 in the correct **place value columns** of the **1,000s**, **100s**, **10s** and **1s**, in a **column** layout and start multiplying in the **lowest term**, the **1s**.

1,847 **represents** the **digit values** of the **1,000s**, **100s**, **10s**, **1s**, 1,000 + 800 + 40 + 7.

Step 2

Then, multiply the **multiplicand** 7 by 5 the **multiplier**, equals 35 **ones** (**30** + **5**). Underneath the line in the first horizontal line of working out, write **5** in the **1s** column and write **3** in the **10s** column.

Step 3

Next, multiply the **multiplicand** 40 (4) by 5 the **multiplier**, equals **200** **ones** (**200**). Underneath the line in the second horizontal line of working out, write **0** in the **1s** column, write **0** in the **10s** column and write **2** in the **100s** column.

Step 4

Then, multiply the **multiplicand** 800 (8) by 5 the **multiplier**, equals **4,000** **ones** (**4,000**). Underneath the line in the third horizontal line of working out, write **0** in the **1s** column, write **0** in the **10s** column, write **0** in the **100s** column and write **4** in the **1,000s** column.

Step 5

Next, multiply the **multiplicand** 1,000 (1) by 5 the **multiplier**, equals 5,000 **ones** (**5,000**). Underneath the line in the fourth horizontal line of working out, write **0** in the **1s** column, write **0** in the **10s** column, write **0** in the **100s** column and write **5** in the **1,000s** column.

Step 6

Finally, use **Column Addition** to add the **total values** of, **35** + **200** + **4,000** + **5,000**.
In the **1s** column add **altogether**, **5** + **0** + **0** + **0**, equals 5 **ones** (**5**).
Write **5** in the **total value** of the **1s** column.
In the **10s** column add **altogether**, **3** + **0** + **0** + **0**, equals 3 **tens** (**30**).
Write **2** in the **total value** of the **10s** column.
In the **100s** column add **altogether**, **2** + **0** + **0**, equals 2 **hundreds** (**200**).
Write **2** in the **total value** of the **100s** column.
In the **1,000s** column add **altogether**, **4** + **5**, equals 9 **thousands** (**9,000**).
Write **9** in the **total value** of the **1,000s** column.
**Product** of 1,847 x 5 is **9,235**.

# 2-Digit Short Multiplication

Step 1

| | 100s | 10s | 1s |
|---|---|---|---|
| | | 3 | 9 |
| x | | | 5 |
| | | | |
| | | | |

Step 2

| | 100s | 10s | 1s |
|---|---|---|---|
| | | 3 | 9 |
| x | | | 5 |
| | | | 5 |
| | | 4 | |

Step 3

| | 100s | 10s | 1s |
|---|---|---|---|
| | | 3 | 9 |
| x | | | 5 |
| | | 9 | 5 |
| | 1 | 4 | |

Step 4

| | 100s | 10s | 1s |
|---|---|---|---|
| | | 3 | 9 |
| x | | | 5 |
| | 1 | 9 | 5 |
| | 1 | 4 | |

Step 1

First, write 39 x 5 in the correct **place value columns** of the **10s** and **1s**, in a **column** layout and start multiplying in the **lowest term**, the **1s**.
39 the **multiplicand**, represents the **digit values** of the **10s** and **1s**, 30 + 9.
5 the **multiplier**, represents the **digit values** of the **1s**, 5.

Step 2

Then, multiply the **multiplicand** 9 by 5 the **multiplier**, equals 45 **ones** (**40** + **5**).
Write **5** in the **total value** of the **1s column**.
**Exchange/regroup** the **40 ones** into **4 tens** from the **1s** column to the **10s** column.
In the **10s** column, write **4 tens** underneath the **total value line** .

Step 3

Next, multiply the **multiplicand** 3 (30) by 5 the **multiplier**, equals 15 **tens** and add the **exchanged/regrouped 4 tens** (40) below, equals 19 **tens** (**100** + **90**).
Write **9** in the **total value** of the **10s column**.
**Exchange/regroup** the **10 tens** into **1 hundred** from the **10s** column to the **100s** column.
In the **100s** column, write **1 hundred** underneath the **total value line** .

Step 4

Finally, write the regrouped **1** hundred above in the **total value line** of the **100s** column as **1**, as there is no further multiplying.
**Product** of 39 x 5 is **195**.

# 3-Digit Short Multiplication

Step 1

| | 100s | 10s | 1s |
|---|---|---|---|
| | 1 | 2 | 8 |
| x | | | 4 |
| | | | |

Step 2

| | 100s | 10s | 1s |
|---|---|---|---|
| | 1 | 2 | 8 |
| x | | | 4 |
| | | | 2 |
| | | 3 | |

Step 3

| | 100s | 10s | 1s |
|---|---|---|---|
| | 1 | 2 | 8 |
| x | | | 4 |
| | | 1 | 2 |
| | 1 | 3 | |

Step 4

| | 100s | 10s | 1s |
|---|---|---|---|
| | 1 | 2 | 8 |
| x | | | 4 |
| | 5 | 1 | 2 |
| | 1 | 3 | |

Step 1

First, write 128 x 4 in the correct **place value columns** of the **100s**, **10s** and **1s**, in a **column** layout and start multiplying in the **lowest term**, the **1s**.
128 the **multiplicand**, represents the **digit values** of the **100s**, **10s** and **1s**, 100 + 20 + 8.
4 the **multiplier**, represents the **digit values** of the **1s**, 4.

Step 2

Then, multiply the **multiplicand** 8 by 4 the **multiplier**, equals 32 **ones** (**30** + **2**).
Write **2** in the **total value** of the **1s column**.
**Exchange/regroup** the **30** **ones** into **3** **tens** from the **1s** column to the **10s** column.
In the **10s** column, write **3** **tens** underneath the **total value line** .

Step 3

Next, multiply the **multiplicand** 2 (20) by 4 the **multiplier**, equals 8 **tens** and add the **exchanged/regrouped** **3** **tens** (30) below, equals **11** **tens** (**100** + **10**).
Write **1** in the **total value** of the **10s column**.
**Exchange/regroup** the **10** **tens** into **1** **hundred** from the **10s** column to the **100s** column.
In the **100s** column, write **1** **hundred** underneath the **total value line** .

Step 4

Finally, multiply the **multiplicand** 1 (100) by 4 the **multiplier**, equals 4 **hundreds** and add the **exchanged/regrouped** **1** **hundreds** (1000) below, equals 5 **hundreds** (**500**).
Write **5** in the **total value** of the **100s column**.
**Product** of 128 x 4 is **512**.

# 4-Digit Short Multiplication

Step 1

| 1,000s | 100s | 10s | 1s |
|---|---|---|---|
| 2 | 4 | 6 | 8 |
| x | | | 3 |
| | | | |
| | | | |

Step 2

| 1,000s | 100s | 10s | 1s |
|---|---|---|---|
| 2 | 4 | 6 | 8 |
| x | | | 3 |
| | | | 4 |
| | | 2 | |

Step 3

| 1,000s | 100s | 10s | 1s |
|---|---|---|---|
| 2 | 4 | 6 | 8 |
| x | | | 3 |
| | | 0 | 4 |
| | 2 | 2 | |

Step 4

| 1,000s | 100s | 10s | 1s |
|---|---|---|---|
| 2 | 4 | 6 | 8 |
| x | | | 3 |
| | 4 | 0 | 4 |
| 1 | 2 | 2 | |

Step 5

| 1,000s | 100s | 10s | 1s |
|---|---|---|---|
| 2 | 4 | 6 | 8 |
| x | | | 3 |
| 7, | 4 | 0 | 4 |
| 1 | 2 | 2 | |

Step 1

First, write 2,468 x 3 in the correct **place value columns** of the **1,000s**, **100s**, **10s** and **1s**, in a **column** layout and start multiplying in the **lowest term**, the **1s**.
2,468 the **multiplicand**, represents the **digit values** of the **1,000s**, **100s**, **10s** and **1s**, 2,000 + 400 + 60 + 8. 3 the **multiplier**, represents the **digit values** of the **1s**, 3.

Step 2

Then, multiply the **multiplicand** 8 by 3 the **multiplier**, equals 24 **ones** (**20** + **4**).
Write **4** in the **total value** of the **1s column**.
**Exchange/regroup** the **20 ones** into **2 tens** from the **1s** column to the **10s** column.
In the **10s** column, write **2 tens** underneath the **total value line** .

Step 3

Next, multiply the **multiplicand** 6 (60) by 3 the **multiplier**, equals 18 **tens** and add the **exchanged/regrouped 2 tens** (20) below, equals 20 **tens** (**200** + **0**).
Write **0** in the **total value** of the **10s column**.
**Exchange/regroup** the **20 tens** into **2 hundred** from the **10s** column to the **100s** column.
In the **100s** column, write **2 hundred** underneath the **total value line** .

Step 4

Then, multiply the **multiplicand** 4 (400) by 3 the **multiplier**, equals 12 **hundreds** and add the **exchanged/regrouped 2 hundreds** (200) below, equals 14 **hundreds** (**1,000** + **400**).
Write **4** in the **total value** of the **100s column**.
**Exchange/regroup** the **10 hundreds** into **1 thousand** from the **100s** column to the **1,000s** column.
In the **1,000s** column, write **1 thousand** underneath the **total value line** .

**Step 5**

Finally, multiply the **multiplicand** 2 (2,000) by 3 the **multiplier**, equals 6 **thousands** and add the **exchanged/regrouped 1 thousand** (1,000) below, equals 7 **thousands** (**7,000**).
Write **7** in the **total value** of the **1,000s column**.
**Product** of 2,468 x 3 is **7,404**.

# Short Multiplication with Decimals

Step 1

| | 10s | 1s | 10ths |
|---|---|---|---|
| | 1 | 7 | . 3 |
| x | | | 5 |
| | | | . |

Step 2

| | 10s | 1s | 10ths |
|---|---|---|---|
| | 1 | 7 | . 3 |
| x | | | 5 |
| | | | . 5 |
| | | 1 | |

Step 3

| | 10s | 1s | 10ths |
|---|---|---|---|
| | 1 | 7 | . 3 |
| x | | | 5 |
| | | 6 | . 5 |
| | 3 | 1 | |

Step 4

| | 10s | 1s | 10ths |
|---|---|---|---|
| | 1 | 7 | . 3 |
| x | | | 5 |
| | 8 | 6 | . 5 |
| | 3 | 1 | |

Step 1

First, write 17.3 x 5 in the correct **place value columns** of the **10s**, **1s** and **10ths**, in a **column decimal** layout and start multiplying in the **lowest term**, the **10ths**.
17.3 the **multiplicand**, represents the **digit values** of the **10s**, **1s** and **10ths**,
10 + 7 + 0.3.
5 the **multiplier**, represents the **digit values** of the **1s**, 5.

Step 2

Then, multiply the **multiplicand** 3 (0.3) by 5 the **multiplier**, equals 15 **tenths** (**1** + **0.5**).
Write **5** in the **total value** of the **10ths column**.
**Exchange/regroup** the **10** **tenths** into **1** **one** from the **10ths** column to the **1s** column.
In the **1s** column, write **1** **one** underneath the **total value line** .

Step 3

Next, multiply the **multiplicand** 7 by 5 the **multiplier**, equals 35 **ones** and add the **exchanged/regrouped** **1** **one** below, equals **36** **ones** (**30**+ **6**).
Write **6** in the **total value** of the **1s column**.
**Exchange/regroup** the **30** **ones** into **3** **tens** from the **1s** column to the **100s** column.
In the **10s** column, write **3** **tens** underneath the **total value line** .

Step 4

Finally, multiply the **multiplicand** 1 (10) by 5 the **multiplier**, equals 5 **tens** and add the **exchanged/regrouped** **3** **tens** (30) below, equals 8 **tens** (**80**).
Write **8** in the **total value** of the **10s column**.
**Product** of 17.3 x 5 is **86.5**.

# Short Multiplication with Decimals

Step 1

| | 10s | 1s | 10ths | 100ths |
|---|---|---|---|---|
| | 1 | 6 | . 5 | 9 |
| x | | | | 4 |
| | | | . | |

Step 2

| | 10s | 1s | 10ths | 100ths |
|---|---|---|---|---|
| | 1 | 6 | . 5 | 9 |
| x | | | | 4 |
| | | | . | 6 |
| | | | 3 | |

Step 3

| | 10s | 1s | 10ths | 100ths |
|---|---|---|---|---|
| | 1 | 6 | . 5 | 9 |
| x | | | | 4 |
| | | | . 3 | 6 |
| | | 2 | 3 | |

Step 4

| | 10s | 1s | 10ths | 100ths |
|---|---|---|---|---|
| | 1 | 6 | . 5 | 9 |
| x | | | | 4 |
| | | 6 | . 3 | 6 |
| | 2 | 2 | 3 | |

Step 5

| | 10s | 1s | 10ths | 100ths |
|---|---|---|---|---|
| | 1 | 6 | . 5 | 9 |
| x | | | | 4 |
| | 6 | 6 | . 3 | 6 |
| | 2 | 2 | 3 | |

Step 1

First, write 16.59 x 4 in the correct **place value columns** of the **10s**, **1s**, **10ths**, **100ths**, in a **column decimal** layout and start multiplying in the **lowest term**, **100ths**.
16.59 the **multiplicand**, represents the **digit values** of the **10s**, **1s**, **10ths** and **100ths**, 10 + 6 + 0.5 + 0.09.
4 the **multiplier**, represents the **digit values** of the **1s**, 4.

Step 2

Then, multiply the **multiplicand** 9 (0.09) by 4 the **multiplier**, equals 36 **hundredths** (**0.3** + **0.06**).
Write **6** in the **total value** of the **100ths column**.
**Exchange/regroup** the **30** **hundredths** into **3** **tenths** from the **100ths** column to the **10ths** column.
In the **10ths** column, write **3** **tenths** underneath the **total value line** .

Step 3

Next, multiply the **multiplicand** 5 (0.5) by 4 the **multiplier**, equals 20 **tenths** and add the **exchanged/regrouped** **3** **tenths** below, equals **23** **tenths** (**2**+ **0.3**).
Write **3** in the **total value** of the **10ths column**.
**Exchange/regroup** the **20** **tenths** into **2** **ones** from the **10ths** column to the **1s** columr
In the **1s** column, write **2** **ones** underneath the **total value line** .

Step 4

Then, multiply the **multiplicand** 6 by 4 the **multiplier**, equals 24 **ones** and add the **exchanged/regrouped** **2** **ones** below, equals 26 **ones** (**20** + **6**).
Write **6** in the **total value** of the **1s column**.
**Exchange/regroup** the **20** **ones** into **2** **tens** from the **1s** column to the **10s** column.
In the **10s** column, write **2** **tens** underneath the **total value line** .

Step 5

Finally, multiply the **multiplicand** 1 (10) by 4 the **multiplier**, equals 4 **tens** and add the **exchanged/regrouped** **2** **tens** (20) below, equals 6 **tens** (**60**).
Write **6** in the **total value** of the **10s column**.
**Product** of 16.59 x 4 is **66.36**.

# 2-Digit Long Multiplication

Step 1

| | 1,000s | 100s | 10s | 1s |
|---|---|---|---|---|
| | | | 8 | 7 |
| x | | | 5 | 4 |
| | | | | |
| + | | | | |
| | | | | |

Step 2

| | 1,000s | 100s | 10s | 1s |
|---|---|---|---|---|
| | | | 8 | 7 |
| x | | | 5 | 4 |
| | | | 2 | 8 |
| + | | | | |
| | | | | |

Step 3

| | 1,000s | 100s | 10s | 1s |
|---|---|---|---|---|
| | | | 8 | 7 |
| x | | | 5 | 4 |
| | | 3 3 | 4 2 | 8 |
| + | | | | |
| | | | | |

Step 4

| | 1,000s | 100s | 10s | 1s |
|---|---|---|---|---|
| | | | 8 | 7 |
| x | | | 5 | 4 |
| | | 3 3 | 4 2 | 8 |
| + | | 3 | 5 | 0 |
| | | | | |

Step 5

| | 1,000s | 100s | 10s | 1s |
|---|---|---|---|---|
| | | | 8 | 7 |
| x | | | 5 | 4 |
| | | 3 3 | 4 2 | 8 |
| + | 4 4 | 3 3 | 5 | 0 |
| | | | | |

Step 6

| | 1,000s | 100s | 10s | 1s |
|---|---|---|---|---|
| | | | 8 | 7 |
| x | | | 5 | 4 |
| | | 3 3 | 4 2 | 8 |
| + | 4 4 | 3 3 | 5 | 0 |
| | 4, | 6 | 9 | 8 |

Step 1

First, write 87 x 54 in the correct **place value columns** of the **10s** and **1s**, in a **column** layout and start multiplying in the **lowest term**, the **1s**.

87 the **multiplicand**, represents the **digit values** of the **10s** and **1s**, 80 + 7.

54 the **multiplier**, represents the **digit values** of the **10s** and **1s**, 50 + 4.

Step 2 (First line of working out)

Then, multiply the **multiplicand** 7 by 4 the **multiplier**, equals 28 **ones** (**20** + **8**).
In the first horizontal line of working out, write **8** in the **1s** column.
**Exchange/regroup** the **20 ones** into **2 tens** from the **1s** column to the **10s** column.
In the **10s** column write a **small 2 tens**.

Step 3 (First line of working out)

Next, multiply the **multiplicand** 8 (80) by 4 the **multiplier**, equals 32 **tens** and add the **exchanged/regrouped small 2 tens** below, equals **34 tens** (**300**+ **40**).
In the first horizontal line of working out, write **4** (**40**)in the **10s** column, next to the **small 2 tens**.
**Regroup** the **30 tens** into **3 hundreds** from the **10s** column to the **100s** column.
In the **100s** column write a **small 3 hundreds** and in the same column write **3** (**300**).

Step 4 (Second line of working out)

In the second horizontal line of working out, in the **1s** column write **0** a **place holder**, to represent the **place value** of the **10s** in the **multiplier** 50.
Then, multiply the **multiplicand** 7 by 5 (50) the **multiplier**, equals 35 **tens** (**300** + **50**).
In the second horizontal line of working out, write **5** in the **10s** column.
**Exchange/regroup** the **30 tens** into **3 hundreds** from the **10s** column to the **100s** column. In the **100s** column write a **small 3 hundreds**.

Step 5 (Second line of working out)

Next, multiply the **multiplicand** 8 (80) by 5 (50) the **multiplier**, equals 40 **hundreds** and add the **exchanged/regrouped small 3 hundreds** below, equals 43 **hundreds** (**4,000** + **300**).
In the second horizontal line of working out, write **3** (**300**) in the **100s** column, next tc the **small 3 hundreds**.
**Exchange/regroup** the **40 hundreds** into **4 thousands** from the **100s** column to the **1,000s** column.
In the **1,000s** column write a **small 4 thousands** and in the same column write **4** (**4,00**

Step 6

Finally, use **Column Addition** to add **altogether** the **values of**, **348** + **4,350**.
**Product** of 87 x 54 is **4,698**.

# 3-Digit Long Multiplication

Step 1

| | 1,000s | 100s | 10s | 1s |
|---|---|---|---|---|
| | | 1 | 7 | 5 |
| x | | | 4 | 3 |
| | | | | |
| + | | | | |
| | | | | |

Step 2

| | 1,000s | 100s | 10s | 1s |
|---|---|---|---|---|
| | | 1 | 7 | 5 |
| x | | | 4 | 3 |
| | | | 1 | 5 |
| + | | | | |
| | | | | |

Step 3

| | 1,000s | 100s | 10s | 1s |
|---|---|---|---|---|
| | | 1 | 7 | 5 |
| x | | | 4 | 3 |
| | | 2 | 2 1 | 5 |
| + | | | | |
| | | | | |

Step 4

| | 1,000s | 100s | 10s | 1s |
|---|---|---|---|---|
| | | 1 | 7 | 5 |
| x | | | 4 | 3 |
| | | 5 2 | 2 1 | 5 |
| + | | | | |
| | | | | |

Step 5

| | 1,000s | 100s | 10s | 1s |
|---|---|---|---|---|
| | | 1 | 7 | 5 |
| x | | | 4 | 3 |
| | | 5 2 | 2 1 | 5 |
| + | | 2 | 0 | 0 |
| | | | | |

Step 6

| | 1,000s | 100s | 10s | 1s |
|---|---|---|---|---|
| | | 1 | 7 | 5 |
| x | | | 4 | 3 |
| | | 5 2 | 2 1 | 5 |
| + | 3 | 0 2 | 0 | 0 |
| | | | | |

Step 7

| | 1,000s | 100s | 10s | 1s |
|---|---|---|---|---|
| | | 1 | 7 | 5 |
| x | | | 4 | 3 |
| | | 5 2 | 2 1 | 5 |
| + | 7 3 | 0 2 | 0 | 0 |
| | | | | |

Step 8

| | 1,000s | 100s | 10s | 1s |
|---|---|---|---|---|
| | | 1 | 7 | 5 |
| x | | | 4 | 3 |
| | | 5 2 | 2 1 | 5 |
| + | 7 3 | 0 2 | 0 | 0 |
| | 7, | 5 | 2 | 5 |

Step 1

First, write 175 x 43 in the correct **place value columns** of the **100s**, **10s** and **1s**, in a **column** layout and start multiplying in the **lowest term**, the **1s**.

175 the **multiplicand**, represents the **digit values** of the **100s**, **10s** and **1s**, 100+70+5.

43 the **multiplier**, represents the **digit values** of the **10s** and **1s**, 40 + 3.

Step 2 (First line of working out)

Then, multiply the **multiplicand** 5 by 3 the **multiplier**, equals 15 **ones** (**10** + **5**).
In the first horizontal line of working out, write **5** in the **1s** column.
**Exchange/regroup** the **10 ones** into **1 ten** from the **1s** column to the **10s** column.
In the **10s** column write a **small 1 ten**.

Step 3 (First line of working out)

Next, multiply the **multiplicand** 7 (70) by 3 the **multiplier**, equals 21 **tens** and add the **exchanged/regrouped small 1 ten** below, equals **22 tens** (**200**+ **20**). In the first horizontal line of working out, write **2** (**20**)in the **10s** column, next to the **small 1 ten**.
**Exchange/regroup** the **20 tens** into **2 hundreds** from the **10s** column to the **100s** column. In the **100s** column write a **small 2 hundreds**.

Step 4 (First line of working out)

Then, multiply the **multiplicand** 1 (100) by 3 the **multiplier**, equals 3 **hundreds** and add the **exchanged/regrouped small 2 tens** below, equals **5 hundreds** (**500**).
In the first horizontal line of working out, write **5** (**500**)in the **100s** column, next to the **small 2 tens**.

Step 5 (Second line of working out)

In the second horizontal line of working out, in the **1s** column write **0** a **place holder**, to represent the **place value** of the **10s** in the **multiplier** 40.
Then, multiply the **multiplicand** 5 by 4 (40) the **multiplier**, equals 20 **tens** (**200** + **0**).
In the second horizontal line of working out, write **0** in the **10s** column.
**Exchange/regroup** the **20 tens** into **2 hundreds** from the **10s** column to the **100s** column. In the **100s** column write a **small 2 hundreds**.

Step 6 (Second line of working out)

Next, multiply the **multiplicand** 7 (70) by 4 (40) the **multiplier**, equals 28 **hundreds** and add the **exchanged/regrouped small 2 hundreds** below, equals 30 **hundreds** (**3,000** + **0**). In the second horizontal line of working out, write **0** (**0**) in the **100s** column, next to the **small 2 hundreds**.
**Exchange/regroup** the **30 hundreds** into **3 thousands** from the **100s** column to the 1,000s column. In the **1,000s** column write a **small 3 thousands**.

Step 7 Step 8 (Second line of working out)

Then, multiply the **multiplicand** 1 (100) by 4 (40) the **multiplier,** equals 4 **thousands,** add the **exchanged/regrouped small 3 thousands** below, equals 7 **thousands** (**7,000**)
In second horizontal line of working out, write **7** (**7,000**) in the **1,000s** column, next to the **small 3 thousands**. Add **values** of, **525** + **7,000**. Product of 175 x 43 is **7,525**.

# Questions

Pages 35-36

1) 13 x 6 =
2) 34 x 8 =
3) 18 x 4 =

Pages 37-38

1) 330 x 9 =
2) 137 x 8 =
3) 257 x 5 =

Pages 39-40

1) 7,340 x 4 =
2) 6,206 x 5 =
3) 5,027 x 8 =

Pages 41-42

1) 53 x 28 =
2) 84 x 46 =
3) 93 x 27 =

Pages 43-44

1) 590 x6 =
2) 206 x 7 =
3) 452 x 3 =

Pages 45-46

1) 35 x 6 =
2) 43 x 8 =
3) 79 x 3 =

Pages 47-48

1) 137 x 8 =
2) 306 x 7 =
3) 340 x 9 =

Pages 49-50

1) 4,527 x 8 =
2) 6,206 x 7 =
3) 7,340 x 9 =

Pages 51-52

1) 57 x 5 =
2) 38 x 4 =
3) 26 x 8 =

Pages 53-54

1) 260 x 8 =
2) 138 x 4 =
3) 257 x 5 =

Pages 55-56

1) 4,137 x 8 =
2) 2,135 x 7 =
3) 8,257 x 5 =

Pages 57-58

1) 13.9 x 9 =
2) 30.2 x 2 =
3) 34.5 x 6 =

Pages 59-60

1) 56.34 x 18 =
2) 34.93 x 21 =
3) 63.26 x 53 =

Pages 61-62

1) 73 x 45 =
2) 62 x 56 =
3) 78 x 27 =

Pages 63-64

1) 821 x 35 =
2) 282 x 57 =
3) 573 x 49 =

# Answers

## Pages 35-36

1) 78
2) 272
3) 72

## Pages 37-38

1) 2,970
2) 1,096
3) 1,375

## Pages 39-40

1) 29,360
2) 31,030
3) 40,216

## Pages 41-42

1) 1,484
2) 3,864
3) 2,511

## Pages 43-44

1) 3,540
2) 1,442
3) 1,356

## Pages 45-46

1) 210
2) 344
3) 237

## Pages 47-48

1) 1,096
2) 2,142
3) 3,060

## Pages 49-50

1) 36,216
2) 43,442
3) 66,060

## Pages 51-52

1) 285
2) 152
3) 208

## Pages 53-54

1) 2,080
2) 552
3) 1,285

## Pages 55-56

1) 33,096
2) 14,945
3) 41,285

## Pages 57-58

1) 125.1
2) 60.4
3) 207

## Pages 59-60

1) 1,014.12
2) 733.53
3) 3,352.78

## Pages 61-62

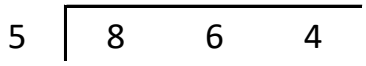
1) 3,285
2) 3,472
3) 2,106

## Pages 63-64

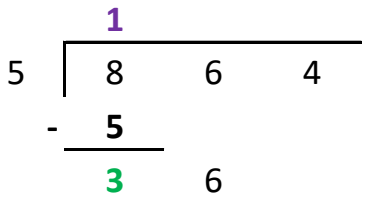
1) 28,735
2) 16,074
3) 28,077

# 1-Digit Long Division

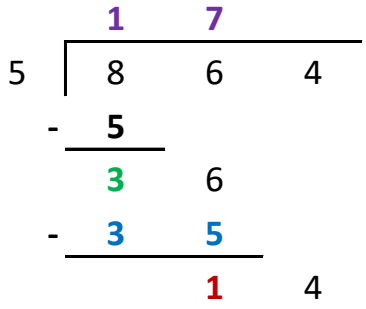
Step 1



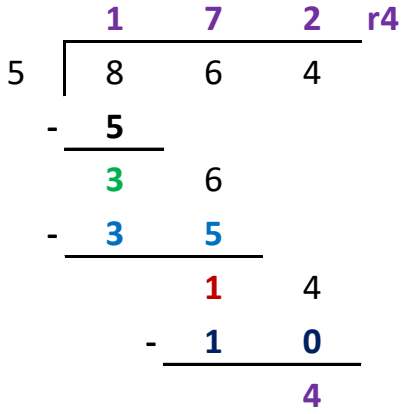

Step 2




Step 3




Step 4



Step 1

First, write 864 ÷ 5 using a **formal written method** (Bus Stop Method).
864 the **dividend**, represents the **digit values** of the **100s**, **10s** and **1s**, 800 + 60 + 4.
5 the **divisor**, represents the **digit values** of the **1s**, 5.

Step 2

Then, how many **lots of** 5 divide **exactly** into 8? The answer is **1** (5 x **1** = **5**).
Write **1** on the **total value line** above the 8.
Write **5** below the 8, draw a line underneath the **5** and a minus symbol.
Calculate the **remainder** ,8 subtract **5**, write **3** underneath the line below the **5**.
**Exchange/Regroup** the **3** to the next **digit place value** above, 6, write 6 next to the **3**, to make **3**6.

Step 3

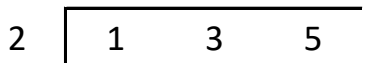
Next, how many **lots of** 5 divide **exactly** into **3**6? The answer is **7** (5 x **7**= **35**).
Write **7** on the **total value** line above the 6, next to the **1**.
Write **35** below the **3**6, draw a line underneath the **35** and a minus symbol.
Calculate the **remainder**, **3**6 subtract **35**, write **1** underneath the line below the **5**.
**Exchange/Regroup** the **1** to the next **digit place value** above**,** 4, write 4 next to the **1**, to make **1**4.

Step 4

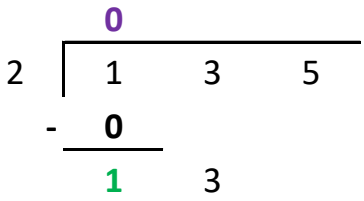
Finally, how many **lots of** 5 divide **exactly** into **1**4? The answer is **2** (5 x **2** = **10**).
Write **2** on the **total value line** above the 4 next to the **7**.
Write **10** below the **1**4, draw a line underneath the **10** and a minus symbol.
Calculate the **remainder**, **1**4 subtract **10**, write **4** underneath the line below the **0**.
The **remainder 4** cannot be **exchanged/regrouped** to another **digit place value**, so the **remainder 4** is written as **r4** on the **total value line** next to the **2**.
**Quotient** of 864 ÷ 5 is **172 r4**.

# 1-Digit Long Division

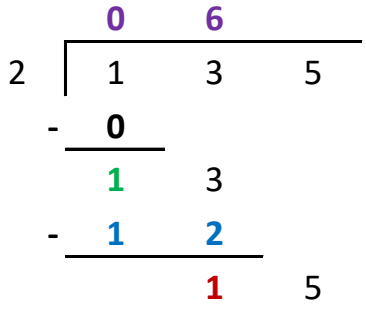
Step 1



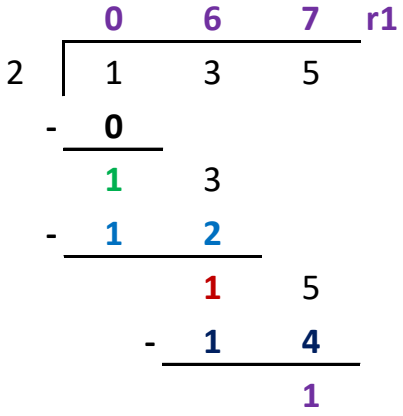

Step 2




Step 3




Step 4



Step 1

First, write 135 ÷ 2 using a **formal written method** (Bus Stop Method).
135 the **dividend**, represents the **digit values** of the **100s**, **10s** and **1s**, 100 + 30 + 5.
2 the **divisor**, represents the **digit values** of the **1s**, 2.

Step 2

Then, how many **lots of** 2 divide **exactly** into 1? The answer is **0** (2 x **0** = **0**).
Write **0** on the **total value line** above the 1.
Write **0** below the 1, draw a line underneath the **0** and a minus symbol.
Calculate the **remainder**, 1 subtract **0**, write **1** underneath the line below the **0**.
**Exchange/Regroup** the **1** to the next **digit place value** above, 3, write 3 next to the **1**, to make **1**3.

Step 3

Next, how many **lots of** 2 divide **exactly** into **1**3? The answer is **6** (2 x **6**= **12**).
Write **6** on the **total value** line above the 3, next to the **0**.
Write **12** below the **1**3, draw a line underneath the **12** and a minus symbol.
Calculate the **remainder**, **1**3 subtract **12**, write **1** underneath the line below the **2**.
**Exchange/Regroup** the **1** to the next **digit place value** above**,** 5, write 5 next to the **1**, to make **1**5.

Step 4

Finally, how many **lots of** 2 divide **exactly** into **1**5? The answer is **7** (2 x **7** = **14**).
Write **7** on the **total value line** above the 5 next to the **6**.
Write **14** below the **1**5 and draw a line underneath the **14** and a minus symbol.
Calculate the **remainder**, **1**5 subtract **14**, write **1** underneath the line below the **4**.
The **remainder 1** cannot be **exchanged/regrouped** to another **digit place value**, so the **remainder 1** is written as **r1** on the **total value line** next to the **7**.
**Quotient** of 135 ÷ 2 is **67 r1**.

# 2-Digit Long Division

Step 1

| | | | | |
|---|---|---|---|---|
| 12 | 9 | 7 | 5 | 0 |

Step 2

| | | | | |
|---|---|---|---|---|
| | **0** | | | |
| 12 | 9 | 7 | 5 | 0 |
| - | **0** | | | |
| | **9** | 7 | | |

Step 3

| | | | | |
|---|---|---|---|---|
| | **0** | **8** | | |
| 12 | 9 | 7 | 5 | 0 |
| - | **0** | | | |
| | **9** | 7 | | |
| - | **9** | **6** | | |
| | | **1** | 5 | |

Step 4

| | | | | |
|---|---|---|---|---|
| | **0** | **8** | **1** | |
| 12 | 9 | 7 | 5 | 0 |
| - | **0** | | | |
| | **9** | 7 | | |
| - | **9** | **6** | | |
| | | **1** | 5 | |
| | - | **1** | **2** | |
| | | | **3** | 0 |

Step 5

| | | | | | |
|---|---|---|---|---|---|
| | **0** | **8** | **1** | **2** | **r6** |
| 12 | 9 | 7 | 5 | 0 | |
| - | **0** | | | | |
| | **9** | 7 | | | |
| - | **9** | **6** | | | |
| | | **1** | 5 | | |
| | - | **1** | **2** | | |
| | | | **3** | 0 | |
| | | - | **2** | **4** | |
| | | | | **6** | |

Step 1

First, write 9,750 ÷ 12 using a **formal written method (**Bus Stop Method).

9,750 the **dividend**, represents the **digit values** of the **1,000s**, **100s**, **10s** and **1s**, 9,000 + 700 + 50 + 0.

12 the **divisor**, represents the **digit values** of the **10s** and **1s**, 10 + 2.

Step 2

Then, how many **lots of** 12 divide **exactly** into 9? The answer is **0** (12 x **0** = **0**).
Write **0** on the **total value line** above the 9.
Write **0** below the 9, draw a line underneath the **0** and a minus symbol.
Calculate the **remainder**, 9 subtract **0**, write **9** underneath the line below the **0**.
**Exchange/Regroup** the **9** to the next **digit place value** above, 7, write 7 next to the **9**, to make **9**7.

Step 3

Next, how many **lots of** 12 divide **exactly** into **9**7? The answer is **8** (12 x **8**= **96**).
Write **8** on the **total value** line above the 7, next to the **0**.
Write **96** below the **9**7, draw a line underneath the **96** and a minus symbol.
Calculate the **remainder**, **9**7 subtract **96**, write **1** underneath the line below the **6**.
**Exchange/Regroup** the **1** to the next **digit place value** above**,** 5, write 5 next to the **1**, to make **1**5.

Step 4

Then, how many **lots of** 12 divide **exactly** into **1**5? The answer is **1** (12 x **1** = **12**).
Write **1** on the **total value line** above the 5 next to the **8**.
Write **12** below the **1**5 and draw a line underneath the **12** and a minus symbol.
Calculate the **remainder**, **1**5 subtract **12**, write **3** underneath the line below the **2**.
**Exchange/Regroup** the **3** to the next **digit place value** above**,** 0, write 0 next to the **3**, to make **3**0.

Step 5

Next, how many **lots of** 12 divide **exactly** into **3**0? The answer is **2** (12 x **2** = **24**).
Write **2** on the **total value line** above the 0 next to the **1**.
Write **24** below the **3**0 and draw a line underneath the **24** and a minus symbol.
Calculate the **remainder**, **3**0 subtract **24**, write **6** underneath the line below the **4**.
The **remainder 6** cannot be **exchanged/regrouped** to another **digit place value**, so the **remainder 6** is written as **r6** on the **total value line** next to the **2**.
**Quotient** of 9,750 ÷ 12 is **812 r6**.

# 2-Digit Long Division

Step 1

| | | | | |
|---|---|---|---|---|
| 21 | 4 | 8 | 6 | 2 |

Step 2

| | | | | |
|---|---|---|---|---|
| | | **0** | | |
| 21 | 4 | 8 | 6 | 2 |
| - | **0** | | | |
| | **4** | 8 | | |

Step 3

| | | | | |
|---|---|---|---|---|
| | | **0** | **2** | |
| 21 | 4 | 8 | 6 | 2 |
| - | **0** | | | |
| | **4** | 8 | | |
| - | **4** | **2** | | |
| | | **6** | 6 | |

Step 4

| | | | | |
|---|---|---|---|---|
| | | **0** | **2** | **3** |
| 21 | 4 | 8 | 6 | 2 |
| - | **0** | | | |
| | **4** | 8 | | |
| - | **4** | **2** | | |
| | | **6** | 6 | |
| | - | **6** | **3** | |
| | | | **3** | 2 |

Step 5

| | | | | | |
|---|---|---|---|---|---|
| | | **0** | **2** | **3** | **1** **r11** |
| 21 | 4 | 8 | 6 | 2 | |
| - | **0** | | | | |
| | **4** | 8 | | | |
| - | **4** | **2** | | | |
| | | **6** | 6 | | |
| | - | **6** | **3** | | |
| | | | **3** | 2 | |
| | | - | **2** | **1** | |
| | | | **1** | **1** | |

Step 1

First, write 4862 ÷ 21 using a **formal written method (**Bus Stop Method).

4862 the **dividend**, represents the **digit values** of the **1,000s**, **100s**, **10s** and **1s**, 4,000 + 800 + 60 + 2.

21 the **divisor**, represents the **digit values** of the **10s** and **1s**, 20 + 1.

Step 2

Then, how many **lots of** 21 divide **exactly** into 4? The answer is **0** (21 x **0** = **0**).
Write **0** on the **total value line** above the 4.
Write **0** below the 4, draw a line underneath the **0** and a minus symbol.
Calculate the **remainder**, 4 subtract **0**, write **4** underneath the line below the **0**.
**Exchange/Regroup** the **4** to the next **digit place value** above, 8, write 8 next to the **4**, to make **4**8.

Step 3

Next, how many **lots of** 21 divide **exactly** into **4**8? The answer is **2** (21 x **2**= **42**).
Write **2** on the **total value** line above the 8, next to the **0**.
Write **42** below the **4**8, draw a line underneath the **42** and a minus symbol.
Calculate the **remainder**, **4**8 subtract **42**, write **6** underneath the line below the **2**.
**Exchange/Regroup** the **6** to the next **digit place value** above**,** 6, write 6 next to the **6**, to make **6**6.

Step 4

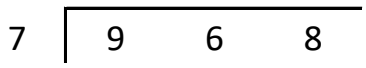
Then, how many **lots of** 21 divide **exactly** into **6**6? The answer is **3** (21 x **3** = **63**).
Write **3** on the **total value line** above the 6 next to the **2**.
Write **63** below the **6**6 and draw a line underneath the **63** and a minus symbol.
Calculate the **remainder**, **6**6 subtract **63**, write **3** underneath the line below the **3**.
**Exchange/Regroup** the **3** to the next **digit place value** above**,** 0, write 0 next to the **3**, to make **3**2.

Step 5

Next, how many **lots of** 21 divide **exactly** into **3**2? The answer is **1** (21 x **1** = **21**).
Write **1** on the **total value line** above the 2 next to the **3**.
Write **21** below the **3**2 and draw a line underneath the **21** and a minus symbol.
Calculate the **remainder**, **3**2 subtract **21**, write **11** underneath the line below the **21**.
The **remainder 11** cannot be **exchanged/regrouped** to another **digit place value**, so the **remainder 11** is written as **r11** on the **total value line** next to the **1**.
**Quotient** of 4,862 ÷ 21 is **231 r11**.

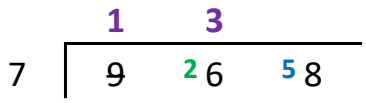
# 1-Digit Short Division

Step 1

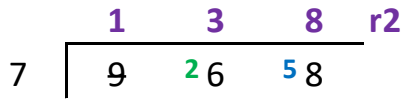



Step 2


Step 3




Step 4



Step 1

First, write 968 ÷ 7 using a **formal written method** (Bus Stop Method).
968 the **dividend**, represents the **digit values** of the **100s**, **10s** and **1s**, 900 + 60 + 8.
7 the **divisor**, represents the **digit values** of the **1s**, 7.

Step 2

Then, how many **lots of** 7 divide **exactly** into 9? The answer is **1** (7 x **1** = **7**).
Write **1** on the **total value line** above the 9.
Calculate if there is a **remainder**,9 subtract **7**, equals **remainder 2**.
**Exchange/Regroup** the **remainder 2** and write it as a **small 2** next to the next **digit place value**, 6, to make **2**6.

Step 3

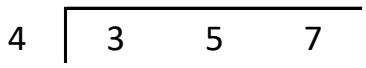
Next, how many **lots of** 7 divide **exactly** into **2**6? The answer is **3** (7 x **3** = **21**).
Write **3** on the **total value line** above the **2**6.
Calculate if there is a **remainder**,**2**6 subtract **21**, equals **remainder 5**.
**Exchange/Regroup** the **remainder 5** and write it as a **small 5** next to the next **digit place value**, 8, to make **5**8.

Step 4

Finally, how many **lots of** 7 divide **exactly** into **5**8? The answer is **8** (7 x **8** = **56**).
Write **8** on the **total value line** above the **5**8.
Calculate if there is a **remainder**,**5**8 subtract **56**, equals **remainder 2**.
The **remainder 2** cannot be **exchanged/regrouped** to another **digit place value**, so the **remainder 2** is written as **r2** on the **total value line** next to the **8**.
**Quotient** of 968 ÷ 7 is **138 r2**.

# 1-Digit Short Division

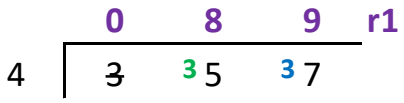
Step 1




Step 2


Step 3


Step 4



Step 1

First, write 357 ÷ 4 using a **formal written method** (Bus Stop Method).
357 the **dividend**, represents the **digit values** of the **100s**, **10s** and **1s**, 300 + 50 + 7.
4 the **divisor**, represents the **digit values** of the **1s**, 4.

Step 2

Then, how many **lots of** 4 divide **exactly** into 3? The answer is **0** (4 x **0** = **0**).
Write **0** on the **total value line** above the 3.
Calculate if there is a **remainder**, 3 subtract **0**, equals **remainder 3**.
**Exchange/Regroup** the **remainder 3** and write it as a **small 3** next to the next **digit place value**, 5, to make **3**5.

Step 3

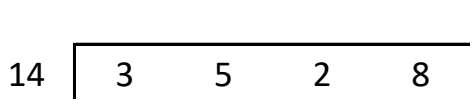
Next, how many **lots of** 4 divide **exactly** into **3**5? The answer is **8** (4 x **8** = **32**).
Write **8** on the **total value line** above the **3**5.
Calculate if there is a **remainder**,**3**5 subtract **32**, equals **remainder 3**.
**Exchange/Regroup** the **remainder 3** and write it as a **small 3** next to the next **digit place value**, 7, to make **3**7.

Step 4

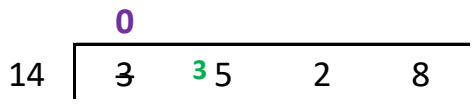
Finally, how many **lots of** 4 divide **exactly** into **3**7? The answer is **9** (4 x **9** = **36**).
Write **9** on the **total value line** above the **3**7.
Calculate if there is a **remainder**,**3**7 subtract **36**, equals **remainder 1**.
The **remainder 1** cannot be **exchanged/regrouped** to another **digit place value**, so the **remainder 1** is written as **r1** on the **total value line** next to the **9**.
**Quotient** of 357 ÷ 4 is **89 r1**.

# 2-Digit Short Division

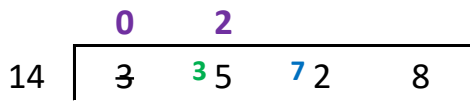
Step 1



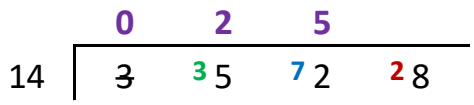

Step 2



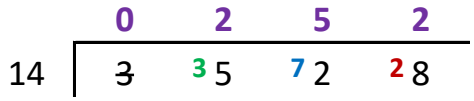

Step 3




Step 4




Step 5



Step 1

First, write 3,528 ÷ 14 using a **formal written method** (Bus Stop Method).

3,528 the **dividend**, represents the **digit values** of the **1,000s**,**100s**, **10s** and **1s**, 3,000 + 500 + 20 + 8.

14 the **divisor**, represents the **digit values** of the **10s** and **1s**, 10 + 4.

Step 2

Then, how many **lots of** 14 divide **exactly** into 3? The answer is **0** (14 x **0** = **0**).

Write **0** on the **total value line** above the 3.

Calculate if there is a **remainder**, 3 subtract **0**, equals **remainder 3**.

**Exchange/Regroup** the **remainder 3** and write it as a **small 3** next to the next **digit place value**, 5, to make **3**5.

Step 3

Next, how many **lots of** 14 divide **exactly** into **3**5? The answer is **2** (14 x **2** = **28**).

Write **2** on the **total value line** above the **3**5.

Calculate if there is a **remainder**,**3**5 subtract **28**, equals **remainder 7**.

**Exchange/Regroup** the **remainder 7** and write it as a **small 7** next to the next **digit place value**, 2, to make **7**2.

Step 4

Then, how many **lots of** 14 divide **exactly** into **7**2? The answer is **5** (14 x **5** = **70**).

Write **5** on the **total value line** above the **7**2.

Calculate if there is a **remainder**,**7**2 subtract **70**, equals **remainder 2**.

**Exchange/Regroup** the **remainder 2** and write it as a **small 2** next to the next **digit place value**, 8, to make **2**8.

Step 5

Finally, how many **lots of** 14 divide **exactly** into **2**8? The answer is **2** (14 x **2** = **28**).

Write **2** on the **total value line** above the **2**8.

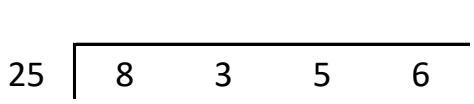
Calculate if there is a **remainder**,**2**8 subtract **28**, equals **remainder 0**.

There is no **exchanging/regrouping** as the **remainder** is **0**.

**Quotient** of 3,528 ÷ 14 is **252**.

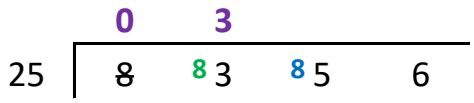
# 2-Digit Short Division

Step 1

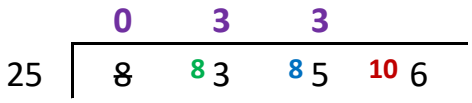



Step 2

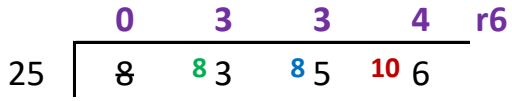

Step 3




Step 4




Step 5



Step 1

First, write 8,356 ÷ 25 using a **formal written method** (Bus Stop Method).
8,356 the **dividend**, represents the **digit values** of the **1,000s**,**100s**, **10s** and **1s**, 8,000 + 300 + 50 + 6.
25 the **divisor**, represents the **digit values** of the **10s** and **1s**, 20 + 5.

Step 2

Then, how many **lots of** 25 divide **exactly** into 8? The answer is **0** (25 x **0** = **0**).
Write **0** on the **total value line** above the 8.
Calculate if there is a **remainder**, 8 subtract **0**, equals **remainder 8**.
**Exchange/Regroup** the **remainder 8** and write it as a **small 8** next to the next **digit place value**, 3, to make **8**3.

Step 3

Next, how many **lots of** 25 divide **exactly** into **8**3? The answer is **3** (25 x **3** = **75**).
Write **3** on the **total value line** above the **8**3.
Calculate if there is a **remainder**,**8**3 subtract **75**, equals **remainder 8**.
**Exchange/Regroup** the **remainder 8** and write it as a **small 8** next to the next **digit place value**, 5, to make **8**5.

Step 4

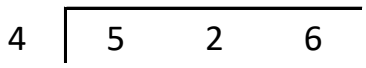
Then, how many **lots of** 25 divide **exactly** into **8**5? The answer is **3** (25 x **3** = **75**).
Write **3** on the **total value line** above the 85.
Calculate if there is a **remainder**,**8**5 subtract **75**, equals **remainder 10**.
**Exchange/Regroup** the **remainder 10** and write it as a **small 10** next to the next **digit place value**, 6, to make **10**6.

Step 5

Finally, how many **lots of** 25 divide **exactly** into **10**6? The answer is **4** (25 x **4** = **100**).
Write **4** on the **total value line** above the **10**6.
Calculate if there is a **remainder**,**10**6 subtract **100**, equals **remainder 6**.
The **remainder 6** cannot be **exchanged/regrouped** to another **digit place value**, so the **remainder 6** is written as **r6** on the **total value line** next to the **4**.
**Quotient** of 8,356 ÷ 253, is **334 r6**.

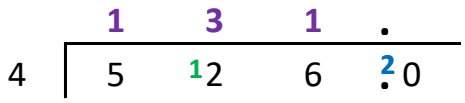
# Short Division with decimals

Step 1

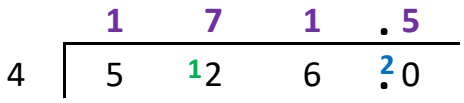



Step 2


Step 3




Step 4



Step 1

First, write 526 ÷ 4 using a **formal written method** (Bus Stop Method).

526 the **dividend**, represents the **digit values** of the **100s**, **10s** and **1s**,

500 + 20 + 6.

4 the **divisor**, represents the **digit values** of the **1s**, 4.

Step 2

Then, how many **lots of** 4 divide **exactly** into 5? The answer is **1** (4 x **1** = **4**).

Write **1** on the **total value line** above the 5.

Calculate if there is a **remainder**, 5 subtract **4**, equals **remainder 1**.

**Exchange/Regroup** the **remainder 1** and write it as a **small 1** next to the next **digit place value**, 2, to make **1**2.

Step 3

Next, how many **lots of** 4 divide **exactly** into **1**2? The answer is **3** (4 x **3** = **12**).

Write **3** on the **total value line** above the **1**2.

Calculate if there is a **remainder**,**1**2 subtract **12**, equals **remainder 0**.

There is no **exchanging/regrouping** as the **remainder** is **0**.

Step 4

Then, how many **lots of** 4 divide **exactly** into 6? The answer is **1** (4 x **1** = **4**).

Write **1** on the **total value line** above the 6.

Calculate if there is a **remainder**,6 subtract **4**, equals **remainder 2**.

The next **digit place value** is the **tenths**, next to the 6 write a **decimal point** and a 0 to represent the **tenths**, write a **decimal point** above next to the **1**.

**Exchange/Regroup** the **remainder 2** and write it as a **small 2** next to the next **digit place value**, 0, to make **2**0.

Step 5

Finally, how many **lots of** 4 divide **exactly** into **2**0? The answer is **5** (4 x **5** = **20**).

Write **5** on the **total value line** above the **2**0.

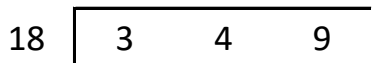
Calculate if there is a **remainder**, **2**0 subtract **20**, equals **remainder 0**.

There is no **exchanging/regrouping** as the **remainder** is **0**.

**Quotient** of 526 ÷ 4, is **171.5**.

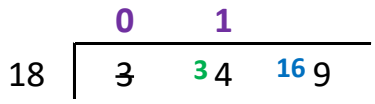
# Short Division with decimals

Step 1

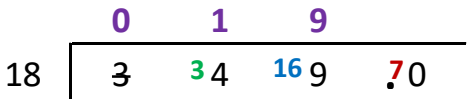



Step 2

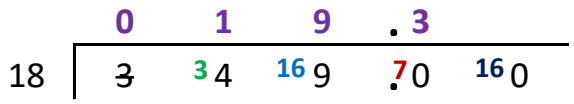

Step 3



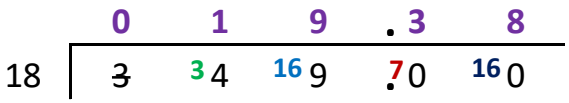

Step 4




Step 5




Step 6




Step 1

First, write 349 ÷ 18 using a **formal written method** (Bus Stop Method).

349 the **dividend**, represents the **digit values** of the **100s**, **10s** and **1s**, 300 + 40 + 9.

18 the **divisor**, represents the **digit values** of the **10s** and **1s**, 10 + 8.

Step 2

Then, how many **lots of** 18 divide **exactly** into 3? The answer is **0** (18 x **0** = **0**).

Write **0** on the **total value line** above the 3.

Calculate if there is a **remainder**, 3 subtract **0**, equals **remainder 3**.

**Exchange/Regroup** the **remainder 3** and write it as a **small 3** next to the next **digit place value**, 4, to make **3**4.

Step 3

Next, how many **lots of** 18 divide **exactly** into **3**4? The answer is **1** (18 x **1** = **18**).
Write **1** on the **total value line** above the **3**4.
Calculate if there is a **remainder**,**3**4 subtract **18**, equals **remainder 16**.
**Exchange/Regroup** the **remainder 16** and write it as a **small 16** next to the next **digit place value**, 9, to make **16**9.

Step 4

Then, how many **lots of** 18 divide **exactly** into **16**9? The answer is **9** (18 x **9** = **162**).
Write **9** on the **total value line** above the **16**9.
Calculate if there is a **remainder**,**16**9 subtract **162**, equals **remainder 7**.
The next **digit place value** is the **tenths**, next to the **16**9 write a **decimal point** and a 0 to represent the **tenths**, write a **decimal point** above next to the **9**.
**Exchange/Regroup** the **remainder 7** and write it as a **small 7** next to the next **digit place value**, 0, to make **7**0.

Step 5

Next, how many **lots of** 18 divide **exactly** into **7**0? The answer is **3** (18 x **3** = **54**).
Write **3** on the **total value line** above the **7**0.
Calculate if there is a **remainder**, **7**0 subtract **54**, equals **remainder 16**.
The next **digit place value** is the **hundredths**, next to the **7**0 write a **decimal point** and a 0 to represent the **hundredths**, write a **decimal point** above next to the **3**.
**Exchange/Regroup** the **remainder 16** and write it as a **small 16** next to the next **digit place value**, 0, to make **16**0.

Step 6

Finally, how many **lots of** 18 divide **exactly** into **16**0? The answer is **8** (18 x **8** = **144**).
Write **8** on the **total value line** above the **16**0.
Calculate if there is a **remainder**, **16**0 subtract **144**, equals **remainder 16**.
Stop dividing, as you only need to learn how to divide up to **two decimal places**.
**Quotient** of 349 ÷ 18, is **19.38**.

# Questions

Pages 67-68

1) 731 ÷ 3 =
2) 974 ÷ 4 =
3) 862 ÷ 5 =
4) 513 ÷ 2 =

Pages 69-70

1) 452 ÷ 6 =
2) 405 ÷ 7 =
3) 268 ÷ 8 =
4) 135 ÷ 4 =

Pages 71-72

1) 6,326 ÷ 12 =
2) 6,927 ÷ 13 =
3) 4,852 ÷ 14 =
4) 9,130 ÷ 15 =

Pages 73-74

1) 6,261 ÷ 22 =
2) 8,458 ÷ 24 =
3) 6,405 ÷ 25 =
4) 7,680 ÷ 26 =

Pages 75-76

1) 913 ÷ 4 =
2) 626 ÷ 5 =
3) 845 ÷ 6 =
4) 427 ÷ 4 =

Pages 77-78

1) 139 ÷ 6 =
2) 452 ÷ 7 =
3) 304 ÷ 5 =
4) 260 ÷ 5 =

Pages 79-80

1) 2,685 ÷ 18 =
2) 6,405 ÷ 17 =
3) 8,450 ÷ 16 =
4) 6,268 ÷ 15 =

Pages 81-82

1) 8,137 ÷ 23 =
2) 4,279 ÷ 24 =
3) 9,260 ÷ 25 =
4) 4,206 ÷ 26 =

Pages 83-84

1) 821 ÷ 2 =
2) 295 ÷ 2 =
3) 574 ÷ 4 =
4) 563 ÷ 5 =

Pages 85-86

1) 632 ÷ 12 =
2) 592 ÷ 13 =
3) 485 ÷ 14 =
4) 349 ÷ 13 =

# Answers

## Pages 67-68

1) 263 r2
2) 243 r2
3) 172 r2
4) 256 r1

## Pages 69-70

1) 75 r2
2) 57 r6
3) 33 r4
4) 33 r3

## Pages 71-72

1) 527 r2
2) 532 r11
3) 346 r8
4) 608 r10

## Pages 73-74

1) 285 r1
2) 352 r10
3) 256 r5
4) 295 r10

## Pages 75-76

1) 228 r1
2) 125 r1
3) 140 r5
4) 106 r3

## Pages 77-78

1) 23 r1
2) 64 r4
3) 60 r4
4) 52 r3

## Pages 79-80

1) 149 r3
2) 376 r13
3) 528 r2
4) 417 r13

## Pages 81-82

1) 353 r18
2) 178 r7
3) 37 r10
4) 161 r20

## Pages 83-84

1) 410.5
2) 147.5
3) 142.5
4) 112.6

## Pages 85-86

1) 52.66
2) 45.53
3) 34.64
4) 26.84

# Glossary

**Column** is a vertical arrangement for example, in a table the cells arranged vertically.

**Difference** is one way of thinking about subtraction and can, in some circumstances, be a more helpful image for subtraction than 'takeaway' – e.g. 102 - 98

**Decimal** relates to decimal fractions where the number of tenths, hundredth, thousandths, etc. are represented as digits following a decimal point. The decimal point is placed at the right of the ones column. Each column after the decimal point is a decimal place.

**Digit** is one of the symbols of a number system most commonly the symbols 0, 1, 2, 3, 4, 5, 6, 7, 8 and 9. Examples: the number 29 is a 2-digit number; there are three digits in 2.95. The position or place of a digit in a number conveys its value.

**Dividend i**n division, is the number that is divided. E.g. in 15 ÷ 3, 15 is the dividend.

**Divisor** is the number by which another is divided. e.g. In the calculation 30 ÷ 6 = 5, the divisor is 6. In this example, 30 is the dividend and 5 is the quotient.

**Equals** is the symbol: =, read as 'is equal to' or 'equals'. and meaning 'having the same value as'. e.g. 7 – 2 = 4 + 1 since both expressions, 7 – 2 and 4 + 1 have the same value, 5.

**Formal Written Method** is the way of setting out working in columnar form. In addition and subtraction, the formal written methods can be referred to as expanded and column addition and/or subtraction. In multiplication, the formal written methods are called short or long multiplication depending on the size of the numbers involved. Similarly in division the formal written methods are called short or long division.

# Glossary

**Grid** a lattice created with two sets of parallel lines. Lines in each set are usually equally spaced. If the sets of lines are at right angles and lines in both sets are equally spaced, a square grid is created.

**Multiplicand** is a number to be multiplied by another. e.g. in 6 × 4, 4 is the multiplier as it is how many lots/groups of 6.

**Multiplier** is a number to be multiplied by another. e.g. in 5 × 3, 5 is the multiplicand as it is the number to be multiplied by 3.

**Partition** 1) To separate a set into subsets. 2) To split a number into component parts. e.g. the two-digit number 38 can be partitioned into 30 + 8 or 19 + 19. 3) A model of division. e.g. 21 ÷ 7 is treated as 'how many sevens in 21?'

**Place Holder** In decimal notation, the zero numeral is used as a place holder to denote the absence of a power of 10.

**Place Value Column** is the value of a digit that relates to its position or place in a number within a column.

**Place Value** is the value of a digit that relates to its position or place in a number. e.g. in 1482 the digits represent 1 thousand, 4 hundred, 8 tens and 2 ones respectively; in 12.34 the digits represent 1 ten, 2 ones, 3 tenths and 4 hundredths respectively.

**Product** is the result of multiplying one number by another. e.g. The product of 2 and 3 is 6 since 2 × 3 = 6.

# Glossary

**Quotient** is the result of a division. e.g. 46 ÷ 3 = 15⅓ and 15⅓ is the quotient of 46 by 3. Where the operation of division is applied to the set of integers, and the result expressed in integers, for example 46 ÷ 3 = 15 remainder 1 then 15 is the quotient of 46 by 3 and 1 is the remainder.

**Regrouping** is to change a number for another of equal value. The process of regrouping is used in some standard compact methods of calculation. e.g.: 'carrying figures/exchanging' in addition, multiplication or division; and 'decomposition' in subtraction.

**Remainder** in the context of division requiring a whole number answer (quotient), the amount remaining after the operation. e.g. 29 divided by 7 = 4 remainder 1.

**Sum** is the result of one or more additions.

**Total Value** is the sum to a calculation.

**Zero** in a place value system, a place-holder. e.g. 105