

Addition

Partitioning (Year 2 onwards)

$$34 + 25 = \underline{59}$$

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$$50 + 9 = 59$$

$$168 + 274 = \underline{442}$$

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$$300 + 130 + 12 = 442$$

$$£ 8.50 + £ 3.72 = \underline{£ 12.22}$$

$$£ 8.50 + £ 3.72$$

$$£ 11 + 120p + 2p = £ 11 \text{ and } 122p$$

$$2.4 + 5.8 = \underline{8.2}$$

$$2.4 + 5.8$$

$$7 + 1.2 = 8.2$$

Expanded Column Addition (Year 3 onwards)

$$466 + 358 = \underline{824}$$

$$\begin{array}{r} 400 \quad 60 \quad 6 \\ + 300 \quad 50 \quad 8 \\ \hline 700 + 110 + 14 = 824 \end{array}$$

Help with adding the total:

$$\begin{array}{r} 400 \quad 60 \quad 6 \\ + 300 \quad 50 \quad 8 \\ \hline 700 + 110 + 14 \\ \hline \cancel{700} + \cancel{120} + 4 \\ 800 + 20 + 4 \end{array}$$

$$£ 14.64 + £ 28.78 = \underline{£ 43.42}$$

$$\begin{array}{r} £ 10 \quad £ 4 \quad 60p \quad 4p \\ + £ 20 \quad £ 8 \quad 70p \quad 8p \\ \hline £ 30 + £ 12 + 130p + 12p = £ 42 \text{ and } 142p \end{array}$$

Help with adding the total:

£ 1 0	£ 4	6 0 p	4 p
+ £ 2 0	£ 8	7 0 p	8 p
<hr/>			
£ 3 0	+ £ 1 2	+ 1 3 0 p	+ 1 2 p
<hr/>			
£ 3 0	+ £ 1 2	+ 1 4 0 p	+ 2 p
<hr/>			
£ 3 0	+ £ 1 3	+ 4 0 p	+ 2 p
<hr/>			
£ 4 0	+ £ 3	+ 4 0 p	+ 2 p

Column Addition (Year 3 onwards)

4 6 6 + 3 5 8 = 8 2 4

4 6 6
+ 3 5 8
<hr/>
1 1
<hr/>
8 2 4

5, 3 4 7 + 2, 2 8 6 + 1, 4 9 5 = 9, 1 2 8

5 3 4 7
+ 2 2 8 6
<hr/>
1 4 9 5
<hr/>
1 2 1
<hr/>
9 1 2 8

£ 1 4.6 4 + £ 2 8.7 8 = £ 4 3.4 2

£ 1 4.6 4
+ £ 2 8.7 8
<hr/>
1 1 1
<hr/>
£ 4 3.4 2

Subtraction

Partitioning (Year 2 onwards) *Only when digits in smaller number are less than digits in larger number*

$$68 - 42 = 26$$

$$\begin{array}{r} 68 \\ - 42 \\ \hline 20 + 6 = 26 \end{array}$$

$$7,493 - 2,020 = 5,473$$

$$\begin{array}{r} 7493 \\ - 2020 \\ \hline 5000 + 400 + 70 + 3 = 5,473 \end{array}$$

$$£24.76 - £12.64 = £12.12$$

$$\begin{array}{r} £24.76 \\ - £12.64 \\ \hline £10 + £2 + 10p + 2p = \\ £12 \text{ and } 12p \end{array}$$

$$8.4 - 3.2 = 5.2$$

$$\begin{array}{r} 8.4 \\ - 3.2 \\ \hline 5 + 0.2 = 5.2 \end{array}$$

Counting Up (Year 3 onwards)

$$506 - 387 = 119$$

3 + 10 + 100 + 6

$$\begin{array}{l} 387 \rightarrow 390 \rightarrow 400 \rightarrow 500 \rightarrow 506 \end{array}$$

$$2,009 - 869 = 1,140$$

1 + 30 + 100 + 1000 + 9

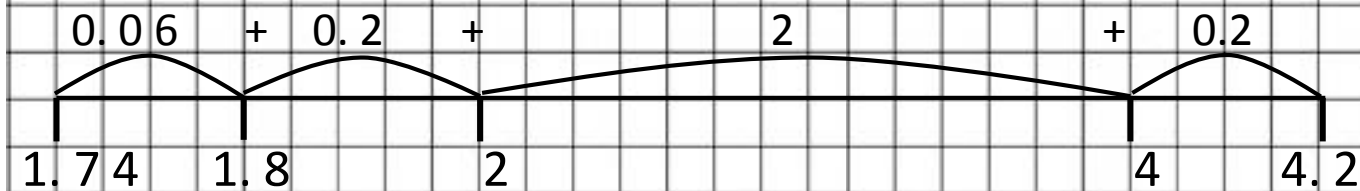
$$\begin{array}{l} 869 \rightarrow 870 \rightarrow 900 \rightarrow 1000 \rightarrow 2000 \rightarrow 2009 \end{array}$$

$$£10 - £6.89 = £3.11$$

1p + 10p + £3

$$\begin{array}{l} £6.89 \rightarrow £6.90 \rightarrow £7.00 \rightarrow £10.00 \end{array}$$

$$4.2 - 1.74 = \underline{2.46}$$



Expanded Column Subtraction (Year 4 onwards)

$$574 - 259 = \underline{315}$$

$$\begin{array}{r} 500 \\ - 200 \\ \hline 300 \end{array} + \begin{array}{r} 60 \\ - 70 \\ \hline 10 \end{array} + \begin{array}{r} 14 \\ - 4 \\ \hline 10 \end{array} = 315$$

$$726 - 358 = \underline{368}$$

$$\begin{array}{r} 700 \\ - 300 \\ \hline 400 \end{array} + \begin{array}{r} 110 \\ - 10 \\ \hline 100 \end{array} + \begin{array}{r} 16 \\ - 6 \\ \hline 10 \end{array} = 368$$

$$£72.14 - £24.71 = \underline{£47.43}$$

$$\begin{array}{r} £60 \\ - £70 \\ \hline -£10 \end{array} + \begin{array}{r} £11 \\ - £2 \\ \hline £9 \end{array} + \begin{array}{r} 110p \\ - 10p \\ \hline 100p \end{array} + 3p = £47 \text{ and } 43p$$

Column Subtraction (Year 4 onwards)

$$574 - 259 = \underline{315}$$

$$\begin{array}{r} 614 \\ 574 \\ - 259 \\ \hline 315 \end{array}$$

$$726 - 358 = \underline{368}$$

$$\begin{array}{r} 6116 \\ 726 \\ - 358 \\ \hline 368 \end{array}$$

$$£72.14 - £24.71 = \underline{£47.43}$$

$$\begin{array}{r} 6114 \\ £72.14 \\ - £24.71 \\ \hline £47.43 \end{array}$$

Multiplication

Grid Method (Year 3 onwards)

$$23 \times 4 = \underline{92}$$

x	20	3	
4	80	12	= 92

$$253 \times 6 = \underline{1,518}$$

x	200	50	3	
6	1200	300	18	= 1,518

$$26 \times 48 = \underline{1,248}$$

x	20	6	
40	800	240	= 1040
8	160	48	= 208
			<u>1248</u>

$$6.76 \times 4 = \underline{27.04}$$

x	6	0.7	0.06	
4	24	2.8	0.24	= 27.04

Expanded Short Multiplication (Year 4 onwards)

$$253 \times 6 = \underline{1,518}$$

253	
x 6	
18	(3 x 6)
300	(50 x 6)
1200	(200 x 6)
<u>1518</u>	

$$5214 \times 8 = \underline{41,712}$$

5214	
x 8	
32	(4 x 8)
80	(10 x 8)
1600	(200 x 8)
4000	(500 x 8)
1	
<u>41712</u>	

$$£13.72 \times 6 = \underline{£82.32}$$

£13.72	
x 6	
0.12	(0.02 x 6)
4.20	(0.7 x 6)
18.00	(3 x 6)
60.00	(10 x 6)
1	
<u>£82.32</u>	

Short Multiplication *(Year 5 onwards)*

$$253 \times 6 = \underline{1,518}$$

```

      253
    x   6
    ----
     1518
     31
    ----
    1518
  
```

$$5214 \times 8 = \underline{41,712}$$

```

      5214
    x   8
    ----
     41712
     113
    ----
    41712
  
```

$$£13.72 \times 6 = \underline{£82.32}$$

```

      £13.72
    x     6
    ----
     £82.32
     241
    ----
    £82.32
  
```

Long Multiplication *(Year 5 onwards)*

$$48 \times 16 = \underline{768}$$

```

      48
    x 16
    ----
     288
     4
     480
     1
    ----
     768
  
```

$$456 \times 38 = \underline{17,328}$$

```

      456
    x 38
    ----
     3648
     44
     13680
     11
     11
    ----
    17328
  
```

Division

Grouping (Year 4 onwards)

$$45 \div 3 = \underline{15}$$
$$\begin{array}{r} 45 \\ - 30 \quad (\underline{10} \times 3) \\ \hline 15 \\ - 15 \quad (\underline{5} \times 3) \\ \hline 0 \end{array}$$

$$86 \div 3 = \underline{28} \text{ r } 2$$
$$\begin{array}{r} 86 \\ - 60 \quad (\underline{20} \times 3) \\ \hline 26 \\ - 24 \quad (\underline{8} \times 3) \\ \hline 2 \end{array}$$

$$526 \div 4 = \underline{131} \text{ r } 2$$
$$\begin{array}{r} 526 \\ - 400 \quad (\underline{100} \times 4) \\ \hline 126 \\ - 120 \quad (\underline{30} \times 4) \\ \hline 6 \\ - 4 \quad (\underline{1} \times 4) \\ \hline 2 \end{array}$$

$$4176 \div 13 = \underline{321} \text{ r } 3$$
$$\begin{array}{r} 4176 \\ - 2600 \quad (\underline{200} \times 13) \\ \hline 1576 \\ - 1300 \quad (\underline{100} \times 13) \\ \hline 276 \\ - 260 \quad (\underline{20} \times 13) \\ \hline 16 \\ - 13 \quad (\underline{1} \times 13) \\ \hline 3 \end{array}$$

Short Division (Year 5 onwards)

Dividing by 1 digit number

$$45 \div 3 = \underline{15}$$
$$\begin{array}{r} 15 \\ 3 \overline{) 45} \end{array}$$

$$86 \div 3 = \underline{28} \text{ r } 2$$
$$28 \text{ r } 2 = 28 \frac{2}{3}$$
$$3 \overline{) 86}$$

or $86 \div 3 = \underline{28.6}$

$$3 \overline{) 86.666} = 28.\dot{6}$$

$$526 \div 4 = \underline{131} \text{ r } 2$$

$$\begin{array}{r} 131 \text{ r } 2 = 131 \frac{2}{4} = 131 \frac{1}{2} \\ 4 \overline{) 526} \end{array}$$

$$\text{or } 526 \div 4 = \underline{131.5}$$

$$\begin{array}{r} 131.5 = 131.5 \\ 4 \overline{) 526.20} \end{array}$$

Long Division (Year 6 onwards) *Dividing by 2 digit number*

$$4176 \div 13 = \underline{321} \text{ r } 3$$

$$\begin{array}{r} 0321 \text{ r } 3 = 321 \frac{3}{13} \\ 13 \overline{) 4176} \\ \underline{3900} \\ 276 \\ \underline{260} \\ 16 \\ 13 \\ \underline{\quad} \\ \textcircled{3} \end{array}$$