Year 6

Visual calculation methods

Mental Addition

MA1: Partitioning

5

576 + 258 = 834

700 + 120 + 14 = 834

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MA1: Partitioning

6

$$4.73 + 2.21 = 6.94$$

MA5: Round & Adjust

5

4645 + 1996 = 6641

4645 + 2000 - 4

6645 - 4 = 6641

MA5: Round & Adjust

6

$$45.2 + 49.9 = 95.1$$

$$45.2 + 50 - 0.1$$

$$95.2 - 0.1 = 95.1$$

Addition

A7e: Column Addition

$$
\begin{array}{r}
787567 \\
+\ 446278 \\
\hline
1233845 \\
\hline
1\ \ 1\ \ 1\ \ \ \ 1\ \ 1
\end{array}
$$

A7i: Column Addition

With Money

$$
\begin{array}{r}
\pounds 38.25 \\
+\ \pounds 27.46 \\
\hline
\pounds 65.71 \\
\hline
\ 1 \qquad\ \ 1
\end{array}
$$

A7 j: Column Addition

With Decimals

$$73.4 + 5.67 = 79.07$$

10 1 . $\frac{1}{10}$ $\frac{1}{100}$

$$\begin{array}{r} 73.4 \\ +\ 5.67 \\ \hline 79.07 \\ \hline 1 \end{array}$$

Mental Subtraction

MS1: Counting Back

46 - 21 = 25

-20 -1

46 → 26 → 25

MS2a: Counting On

75 - 47 = 28

MS3: Round & Adjust

$$84 - 29 = 55$$

$$84 - 30 + 1$$

$$54 + 1 = 55$$

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Subtraction

S11g: Column Subtraction

10 1 . $\frac{1}{10}$ $\frac{1}{100}$

	6	11		13	1
	~~7~~	~~2~~	.	~~4~~	3
−	4	7	.	8	5
	2	4	.	5	8

S11h: Column Subtraction

With Decimals

$12.4 - 5.97 = 6.43$

10 1 - $\frac{1}{10}$ $\frac{1}{100}$

$$\begin{array}{r} {}^{0}\not{1}{}^{11}\not{2}.{}^{13}\not{4}{}^{1}0 \\ -\ 5.97 \\ \hline 6.43 \end{array}$$

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Mental Multiplication

MM4a: Round & Adjust

$$198 \times 4 = 792$$

$$(200 \times 4) - (2 \times 4)$$

$$800 - 8 = 792$$

MM4c: Round & Adjust

£5.99 x 6 = £35.94

(£6 x 6) - (1p x 6)

£36 - 6p = £35.94

MM5f: Doubling

Double 768 = 1536

1400 + 120 + 16 = 1536

MM5g: Doubling

Double 3.7 = 7.4

6 + 1.4 = 7.4

Multiplication

M9d: Column Multiplication

100 10 1 . $\frac{1}{10}$

47.2

x 3

141.6

2

M9e: Column Multiplication

10	1	.	$\frac{1}{10}$	$\frac{1}{100}$
	7	.	3	8
x	6			
4	4	.	2	8
4	2		4	

T	O	.	TH	HT
	2	4	.	3
X		2	.	5

Make 10 x bigger and then ÷ 10

Division

D10f: Short Division

Different Remainders

$$\begin{array}{r} 169.2 \\ 5\overline{)\,8^{3}4^{4}6.^{1}0} \end{array}$$

$846 \div 5$

$$\begin{array}{r} 169\text{r}1 \\ 5\overline{)\,8^{3}4^{4}6} \end{array}$$

$$\begin{array}{r} 169\,\frac{1}{5} \\ 5\overline{)\,8^{3}4^{4}6} \end{array}$$

D10i: Short Division

$$87.5 \div 7 = 12.5$$

$$\begin{array}{r} 12.5 \\ 7\overline{)\,8^{1}7^{3}.5} \end{array}$$

D14: Long Division

Traditional Method

$$
\begin{array}{r}
26 \text{ r } 21 \\
37 \overline{)\,983} \\
-\,74 \\
\hline
243 \\
-\,222 \\
\hline
21
\end{array}
$$

983 ÷ 37 = 26r21