

Year 6

Addition

**Compact column addition**

Compact column addition for adding several large numbers, decimal numbers with up to 2 decimal places and money

$$\begin{array}{r}
 \text{£ } 14.64 \\
 + \text{£ } 28.78 \\
 \text{£ } 12.26 \\
 \text{£ } 1.01 \\
 \hline
 \text{£ } 55.68
 \end{array}$$

**Fractions**

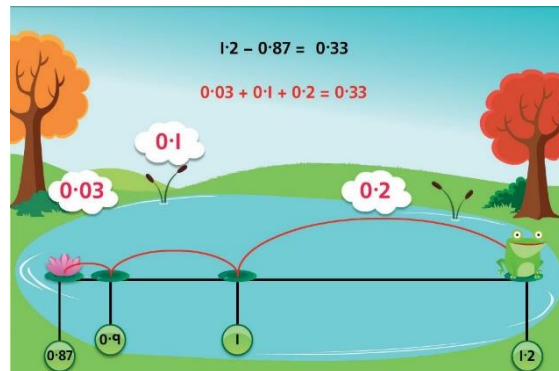
Add unlike fractions, including mixed numbers

	$\frac{1}{4}$	+	$\frac{2}{3}$		
x3					x4
	$\frac{3}{12}$	+	$\frac{8}{12}$	=	$\frac{11}{12}$

Subtraction

**Counting up**

Find a difference between two numbers by counting up from the smaller to the larger (when it is most effective)



**Compact column subtraction**

Compact column subtraction for large numbers

$$\begin{array}{r}
 214 \quad 715 \\
 \cancel{2} \quad \cancel{1} \quad 6 \quad \cancel{7} \quad \cancel{1} \\
 - 164 \quad 58 \\
 \hline
 182 \quad 27
 \end{array}$$

**Fractions**

Subtract unlike fractions, including mixed numbers

	$\frac{3}{4}$	-	$\frac{1}{3}$		
x3					x4
	$\frac{9}{12}$	-	$\frac{4}{12}$	=	$\frac{5}{12}$

Overview of Written Methods

<b>Multiplication</b>	<p><b>Short multiplication</b> Short multiplication of 2-, 3- and 4-digit numbers by 1-digit numbers (tens digits written small for carrying)</p>	<table border="1" style="border-collapse: collapse; text-align: center;"> <tr><td></td><td></td><td>4</td><td>3</td><td>5</td><td></td></tr> <tr><td>x</td><td></td><td></td><td></td><td>8</td><td></td></tr> <tr><td colspan="6"><hr/></td></tr> <tr><td>3</td><td>4</td><td><sup>2</sup>8</td><td><sup>4</sup>0</td><td></td><td></td></tr> </table>			4	3	5		x				8		<hr/>						3	4	<sup>2</sup> 8	<sup>4</sup> 0																															
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<p><b>Long multiplication</b> Long multiplication of 2-, 3- and 4-digit numbers by 2-digit numbers (multiplied by ones digit first – as short multiplication)</p>	<table border="1" style="border-collapse: collapse; text-align: center;"> <tr><td></td><td></td><td></td><td>4</td><td>8</td><td></td></tr> <tr><td></td><td></td><td>x</td><td>1</td><td>6</td><td></td></tr> <tr><td colspan="6"><hr/></td></tr> <tr><td></td><td></td><td>2</td><td>8</td><td><sup>4</sup>8</td><td></td></tr> <tr><td></td><td>+</td><td>4</td><td>8</td><td>0</td><td></td></tr> <tr><td colspan="6"><hr/></td></tr> <tr><td></td><td></td><td>1</td><td></td><td></td><td></td></tr> <tr><td colspan="6"><hr/></td></tr> <tr><td></td><td></td><td>7</td><td>6</td><td>8</td><td></td></tr> </table>				4	8				x	1	6		<hr/>								2	8	<sup>4</sup> 8			+	4	8	0		<hr/>								1				<hr/>								7	6	8	
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<p><b>Fractions</b> Multiply fractions by 1-digit numbers</p> <p>Multiply simple pairs of proper fractions</p>	<table border="1" style="border-collapse: collapse; text-align: center;"> <tr><td><math>\frac{3}{4}</math></td><td>x</td><td>6</td><td>=</td><td><math>\frac{18}{4}</math></td></tr> </table> <table border="1" style="border-collapse: collapse; text-align: center;"> <tr><td><math>\frac{1}{2}</math></td><td>x</td><td><math>\frac{1}{4}</math></td><td>=</td><td><math>\frac{1}{8}</math></td></tr> </table>	$\frac{3}{4}$	x	6	=	$\frac{18}{4}$	$\frac{1}{2}$	x	$\frac{1}{4}$	=	$\frac{1}{8}$																																												
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<b>Division</b>	<p><b>Short division</b> Short division of 3- and 4-digit numbers by 1- and 2-digit numbers, giving remainders as whole numbers, fractions or decimals</p>	<table border="1" style="border-collapse: collapse; text-align: center;"> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td>3</td><td>2</td><td>1</td><td><math>\frac{3}{13}</math></td><td></td></tr> <tr><td>1</td><td>3</td><td> </td><td>4</td><td>1</td><td><sup>2</sup>7</td><td><sup>1</sup>6</td><td></td></tr> </table>												3	2	1	$\frac{3}{13}$		1	3		4	1	<sup>2</sup> 7	<sup>1</sup> 6																														
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<p><b>Fractions</b> Divide proper fractions by whole numbers</p>	<table border="1" style="border-collapse: collapse; text-align: center;"> <tr><td><math>\frac{1}{4}</math></td><td>÷</td><td>3</td><td>=</td><td><math>\frac{1}{12}</math></td></tr> </table>	$\frac{1}{4}$	÷	3	=	$\frac{1}{12}$																																																	
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