







		Answer	Assessment Focus	Possible Misconceptions and Interventions
1	2 marks 1 mark for all $\times$ facts completed correctly 1 mark for all $\div$ facts completed correctly	$7 \times 3 = \boxed{21}$ $48 \div 12 = \boxed{4}$ $4 \times 9 = \boxed{36}$ $24 \div 8 = \boxed{3}$ $11 \times 2 = \boxed{22}$ $45 \div 5 = \boxed{9}$ $6 \times \boxed{12} = 72$ $77 \div \boxed{7} = 11$ $\boxed{8} \times 5 = 40$ $\boxed{12} \div 2 = 6$	Recall multiplication and division facts for multiplication tables up to $12 \times 12$	Children may not be secure in their recall of multiplication and division facts or not be able to apply the corresponding fact when a number is missing from before the equals sign.
2	2 marks 1 mark for a) 1 mark for b)	a) <b>1300m</b> b) <b>45m</b>	Solve problems involving integer scaling problems	Children may not be secure in their understanding of place value and be able to use it in order to scale numbers up or down by a given amount. They may not be able to apply this understanding to the context of a real-life situation.
3	3 marks 1 mark for both factor pairs for each array	$5 \times 6$  $6 \times 5$   $3 \times 10$  $10 \times 3$   $2 \times 15$  $15 \times 2$ 	Recognise and use factor pairs and commutativity in mental calculations	Children may not be sure of what factor pairs are or may not be able to recognise them from a visual representation. They also may not understand the commutativity of factor pairs and so recognise both for each array.

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4	2 marks 1 mark for the correct animal 1 mark for a clear and full explanation	The seal's statement An example answer: <b>The penguin is incorrect because if you multiply a whole number by the whole number 1, the value does not change and if you multiply it by 0, the product is 0 eg. <math>16 \times 0 = 0</math> and <math>16 \times 1 = 16</math>. Neither get bigger.</b>	Multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1	Children may not know what happens to a number when multiplied by 1 or 0. They may not understand the meaning of the term product or how it applies. They may not be able to explain their understanding fully and clearly, with an example that proves it.																				
5	2 marks 1 mark for two or three number statements completed correctly 2 marks for all completed correctly	$6 \times 6 = 5 \times 6 + \boxed{6}$ $12 \times 9 = 10 \times 9 + \boxed{2} \times 9$ $18 \times 7 = 10 \times 7 + 8 \times \boxed{7}$ $18 \times 7 = 9 \times 7 \times \boxed{2}$	Write statements about the equality of expressions	Children may not understand the meaning of the equals sign, thinking it means 'the answer is...'. They may also not understand the distributive law $39 \times 7 = 30 \times 7 + 9 \times 7$ and associative law $(2 \times 3) \times 4 = 2 \times (3 \times 4)$ in multiplication or not be able to apply that understanding.																				
6	1 mark The exact answer of 37	<table border="1" style="border-collapse: collapse; text-align: center; width: 100px; height: 100px;"> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td>0</td><td>3</td><td>7</td></tr> <tr><td></td><td>5</td><td>1</td><td>8</td><td><sup>3</sup>5</td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> </table>								0	3	7		5	1	8	<sup>3</sup> 5						Practise to become fluent in the formal written method of short division with exact answers	Children may not know how to use the written short method for division when dividing by a 1 digit number. They may be unsure of what to do with the remainder in the tens column and know how to incorporate it in the division correctly. Children may not be familiar with all of the relevant division facts.
		0	3	7																				
	5	1	8	<sup>3</sup> 5																				
7	2 marks 1 mark for both number statements for one calculation completed correctly	$3 \times 4 \times 10 = ?$ <b><math>3 \times 4 \times 10 = 12 \times 10 = 120</math> or</b> <b><math>3 \times 4 \times 10 = 3 \times 40 = 120</math></b> $2 \times 6 \times 9 = ?$ <b><math>2 \times 6 \times 9 = 12 \times 9 = 108</math> or</b> <b><math>2 \times 6 \times 9 = 2 \times 54 = 108</math></b>	Multiply and divide mentally, including: multiplying together three numbers  Use the distributive law and associative law	Children may not be secure in their recall of multiplication facts. They may also not understand the distributive law $39 \times 7 = 30 \times 7 + 9 \times 7$ and associative law $(2 \times 3) \times 4 = 2 \times (3 \times 4)$ in multiplication or not be able to apply that understanding. They may find it difficult to use place value understanding in the final stage of the calculations to find the answer accurately.																				

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8	2 marks 1 mark each for a) and b) completed correctly	a) <b>128</b> b) <b>32</b>	Solve two-step problems in contexts, choosing the appropriate operation, working with increasingly harder numbers	Children may not know how to interpret this real-life context and know which operations are needed. They may know the operation needed for part of the problem but not for all of it. They may make an error in one of the steps of the working out which carries through and they may not know the relevant multiplication or division facts needed.																																
9	2 marks 1 mark for all number sentences correctly circled 1 mark for all number sentences completed correctly	a) $6 \times 3 \times 4 = 6 \times 7$ $9 \times 0 = 0 \times 14$ $0 \times 6 + 12 = 18$ $4 \times 5 \times 2 = 2 \times 4 \times 5$ $1 \times 87 = 86 + 1$ $36 \div 1 = 1$ b) $54 \div \boxed{1} = 54$ $783 \times 0 = \boxed{0}$ $\boxed{91} \times 6 = 6 \times 91$	Multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers  Recognise and use commutativity in mental calculations	Children may not be secure in their recall of multiplication facts. They may also not understand commutative law $92 \times 3 = 3 \times 92$ , distributive law $39 \times 7 = 30 \times 7 + 9 \times 7$ and associative law $(2 \times 3) \times 4 = 2 \times (3 \times 4)$ in multiplication or not be able to apply that understanding. They may also struggle with knowing what happens with numbers when multiplied by 0 or 1 or divided by 1.																																
10	2 marks 1 mark for each multiplication completed correctly	<table border="1" style="display: inline-table; margin-right: 20px;"><tr><td></td><td></td><td>5</td><td>8</td></tr><tr><td>x</td><td></td><td></td><td>9</td></tr><tr><td></td><td>5</td><td>2</td><td>2</td></tr><tr><td></td><td>5</td><td>7</td><td></td></tr></table> <table border="1" style="display: inline-table;"><tr><td></td><td>1</td><td>6</td><td>3</td></tr><tr><td>x</td><td></td><td></td><td>4</td></tr><tr><td></td><td>6</td><td>5</td><td>2</td></tr><tr><td></td><td>2</td><td>1</td><td></td></tr></table>			5	8	x			9		5	2	2		5	7			1	6	3	x			4		6	5	2		2	1		Multiply two-digit and three-digit numbers by a one-digit number using formal written layout	Children may not be secure in their recall of relevant multiplication facts. They may be unsure of how to use a short written method for multiplication. They may not be able to exchange numbers correctly using place value knowledge to incorporate it into the calculation.
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x			4																																	
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11	2 marks 1 mark each for a) and b) completed correctly	a) <b>28 tennis balls and 42 golf balls</b> b) <b>49</b>	Solve problems involving multiplying and adding, including harder correspondence problems such as n objects are connected to m objects	Children may not know how to interpret this real-life context and know which operations are needed. They may know the operation needed for part of the problem but not for all of it. They make an error in one of the steps of the working out which carries through and they may not know the relevant multiplication facts needed.																																

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<b>12</b>	2 marks 1 mark for three to five completed correctly 2 marks for all	$60 \div 3 = \boxed{20}$ $40 \times 8 = \boxed{320}$ $\boxed{120} \div 6 = 20$ $540 \div 90 = \boxed{6}$ $\boxed{300} \times 3 = 900$ $50 \times 20 = \boxed{1000}$	Multiply and divide mentally and extend this to three-digit numbers to derive facts	Children may not be secure in their recall of multiplication and division facts or not be able to apply the corresponding fact when a number is missing from before the equals sign. They may not have a full understanding of place value or be unsure of how to apply that knowledge.
<b>13</b>	2 marks 1 mark each for a) and b) completed correctly	a) <b>£56</b> b) <b>£336</b>	Solve problems involving multiplying and adding	Children may not know how to interpret this real-life context and know which operations are needed. They may know the operation needed for part of the problem but not for all of it. They make one or more errors in one of the steps in their chosen written method.