

Name:



Maths Assessment Year 6 Term 3: Ratio and Proportion

1. Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts.
2. Solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison.
3. Solve problems involving similar shapes where the scale factor is known or can be found.
4. Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.

c) A chocolate manufacturer sells a 320g bar of chocolate for 50p. The size of the bar is reduced by 20%, and the price is reduced to 42p.

Is the chocolate bar better, the same or less value now?

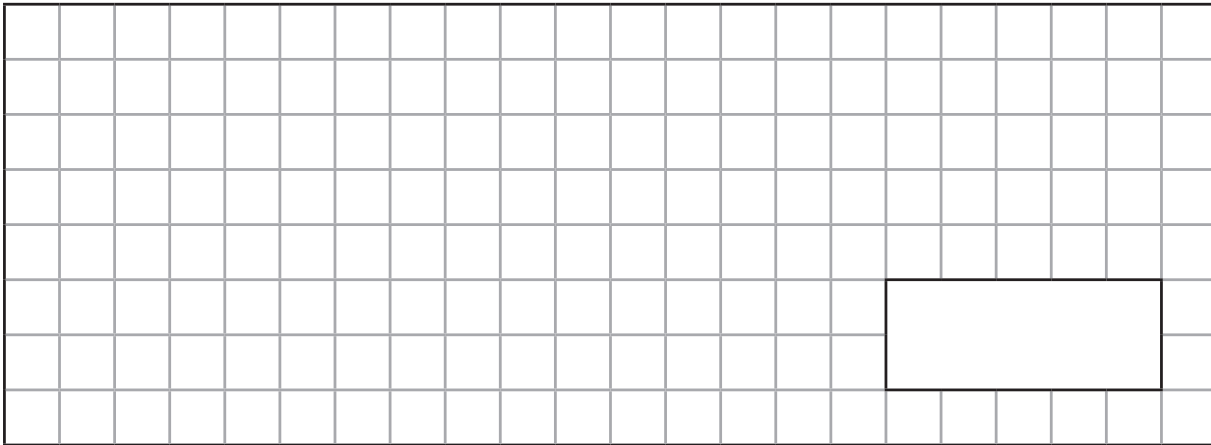
2 marks

d) In a survey, 45% of children chose salt and vinegar as their favourite flavour of crisps. In a pie chart, what angle would be used to draw the 45%?

1 mark

Total for this page

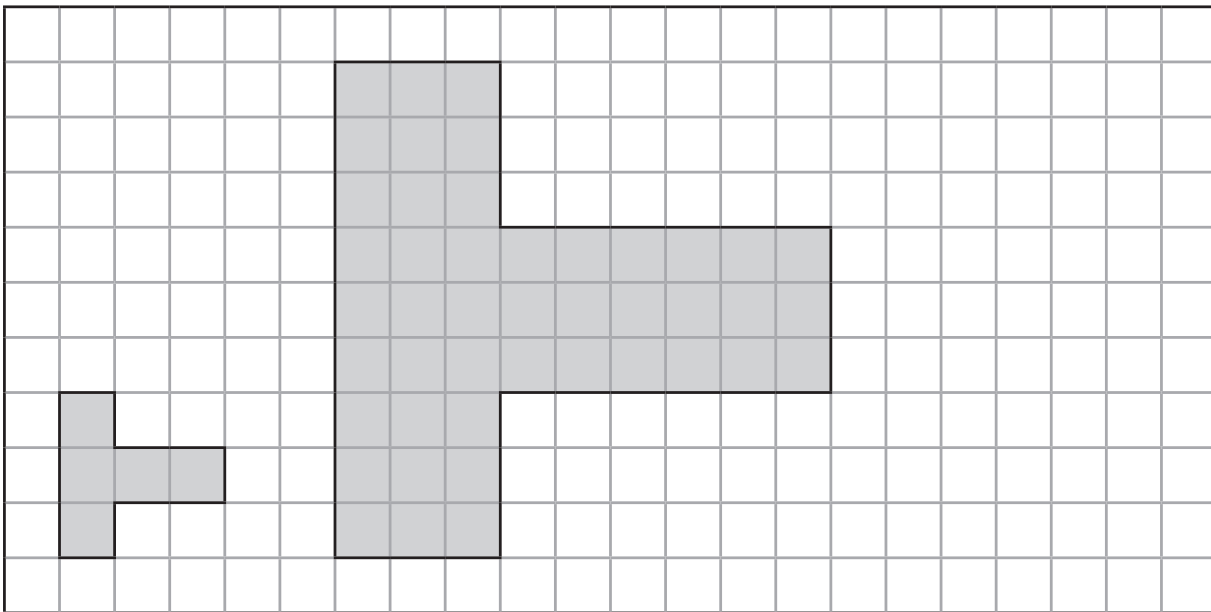
e) Jay and Alex have a total of 77 toy cars between them. Jay has 20% more than Alex.
How many toy cars do they each have?



2 marks

3. Solve problems involving similar shapes where the scale factor is known or can be found.

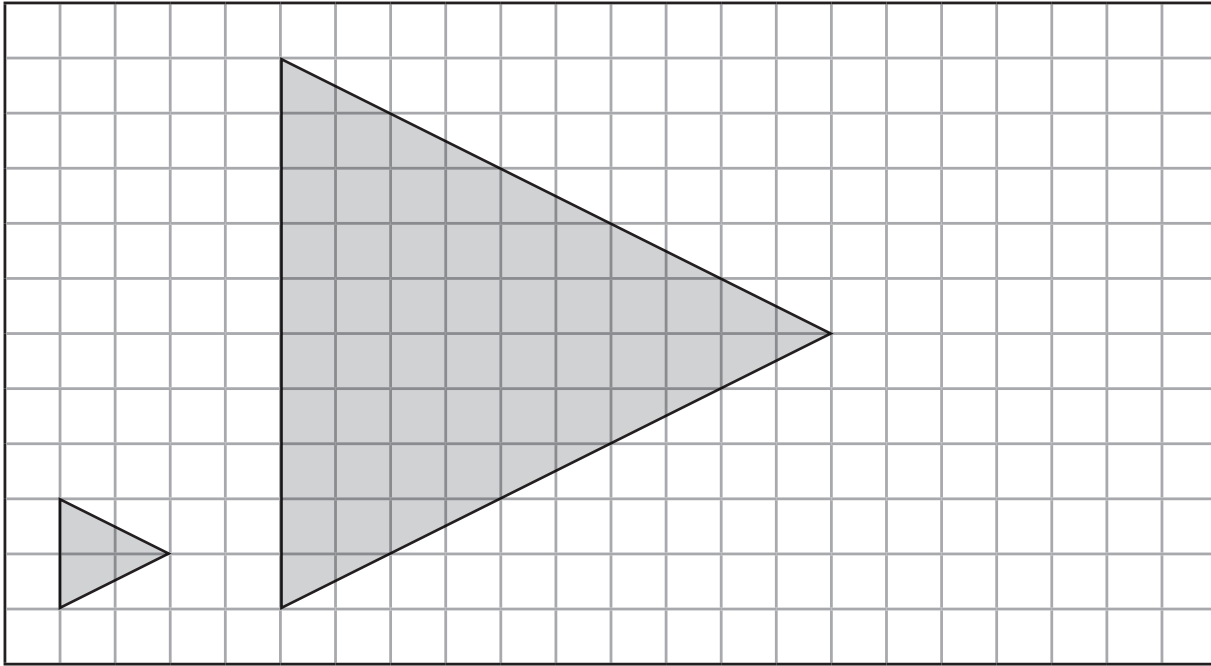
a) Identify the scale factor that has been used to enlarge this shape:



1 mark

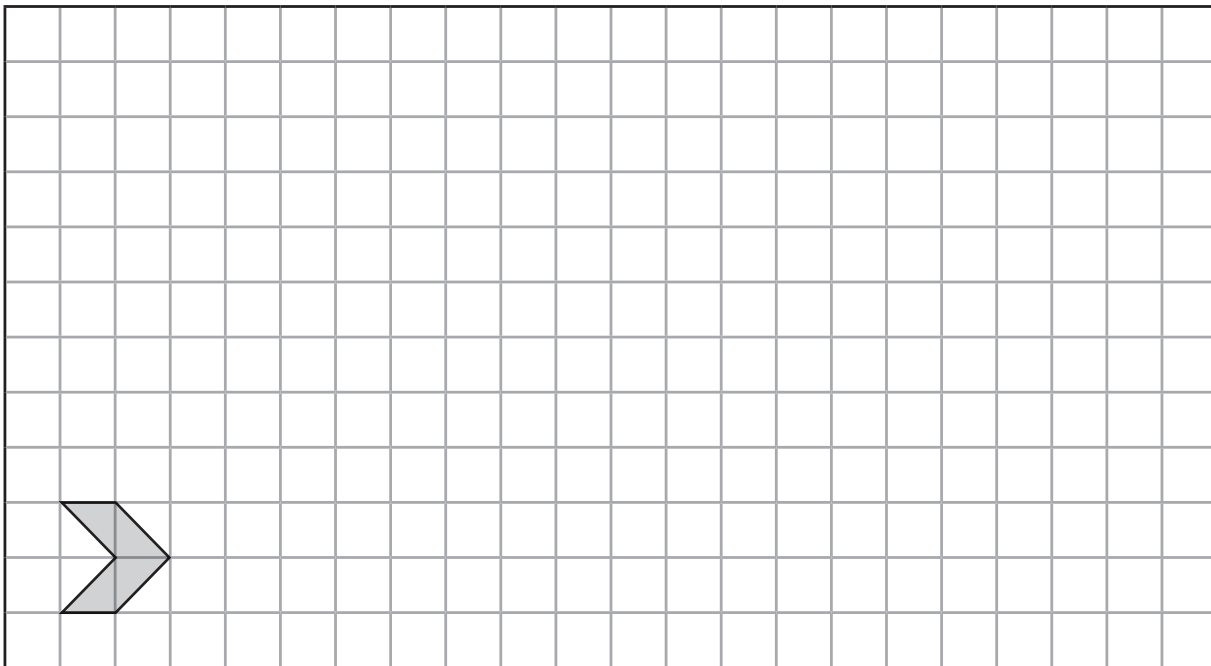
Total for this page

b) Identify the scale factor that has been used to enlarge this shape:



1 mark

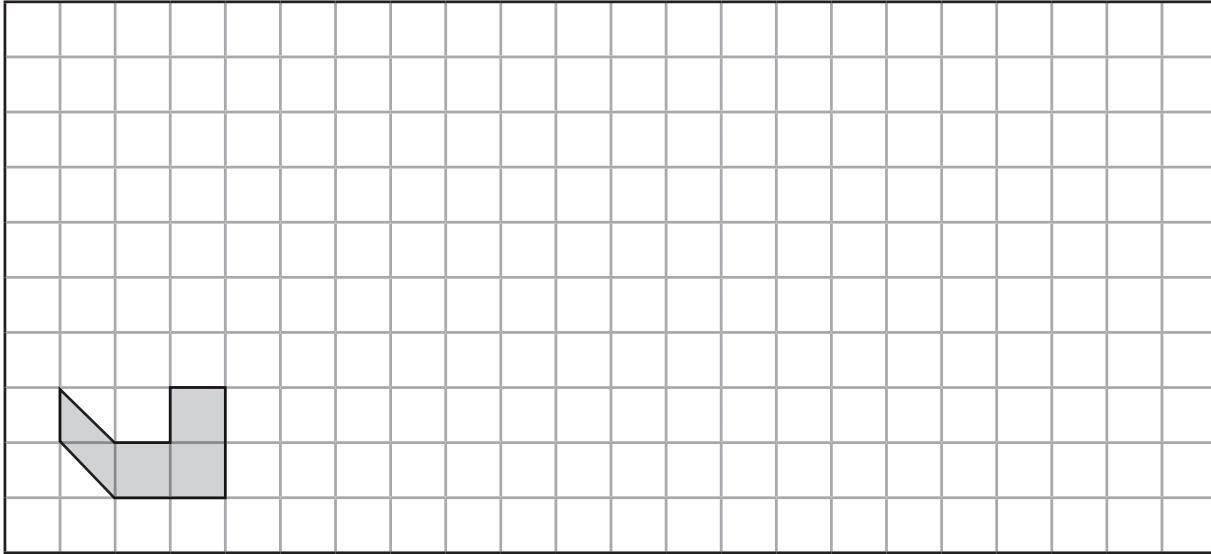
c) Enlarge this shape by a scale factor of 4.



1 mark

Total for this page

d) Enlarge this shape by a scale factor of 2.



1 mark

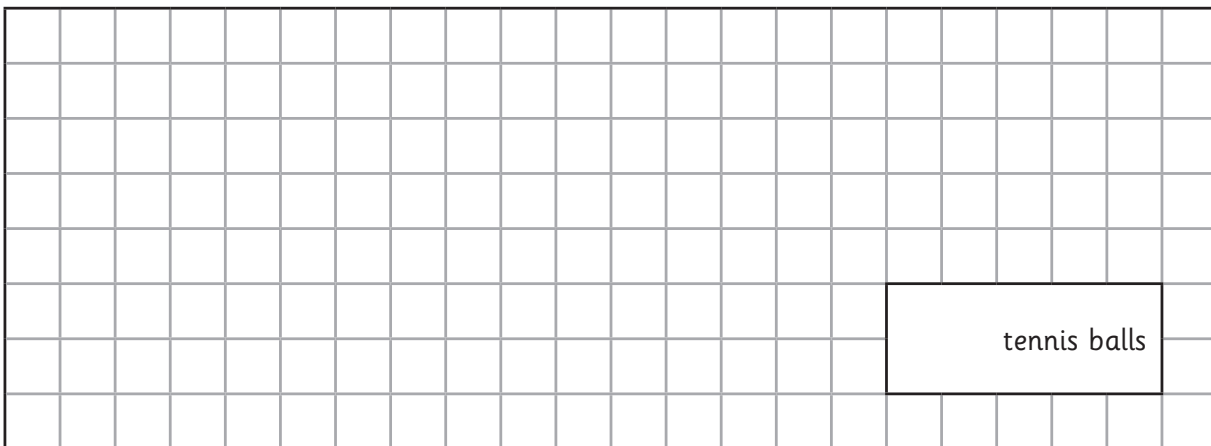
e) The perimeter of a rectangle is 14cm. It is enlarged by a scale factor of 2. What could be the lengths of the sides in the new rectangle?

2 marks

4. Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.

a) A tennis kit contains: 1 net, 2 net posts, 4 tennis rackets and 15 tennis balls.

A school buys enough kits so there are enough rackets for a class of 30 children.
How many tennis balls will there be in the packs the school buys?



1 mark

Total for this page

b) A class of children plant some sunflower seeds. Three quarters of the seeds grow to be flowers. Half of the remaining seeds germinated but did not produce flowers. There were 9 seeds that did not germinate.

How many sunflower seeds were planted?

2 marks

c) A cricketer scored $\frac{2}{3}$ of his 108 runs in fours. Half of the remaining runs, he hit in sixes. The rest of the runs were scored by running between the wickets.

How many runs did he score by running between the wickets?

2 marks

Total for this page

Answer Sheet: Maths Assessment Year 6 Term 3:

Ratio and Proportion



question	answer	marks	notes								
1. Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts.											
a	£87.50	1									
b	£22	1									
c	312.5g	2									
2. Solve problems involving the calculation of percentages and the use of percentages for comparison.											
a	<table border="1"> <tr> <td>10% of 170</td> <td>17</td> </tr> <tr> <td>35% of 320</td> <td>112</td> </tr> <tr> <td>50% of 116</td> <td>58</td> </tr> <tr> <td>75% of 660</td> <td>495</td> </tr> </table>	10% of 170	17	35% of 320	112	50% of 116	58	75% of 660	495	4	Award one mark for each correct answer.
10% of 170	17										
35% of 320	112										
50% of 116	58										
75% of 660	495										
b	1050g	1									
c	Less value. 20% cheaper would be 40p Other solutions could apply.	2	2 marks for a correct answer. 1 mark for correct method but 1 error in calculation.								
d	162°	1									
e	Jay has 42 cars and Alex has 35 cars. One solution is to divide 77 by 2.2, because, if Alex has 1 set, Jay has 1 set + 20% (or 1 + 0.2) 77 cars = 2.2 sets.	2	2 marks for the correct answer; 1 mark for correctly calculating identifying a calculation that will give the answer, even if the calculating is incorrect.								
3. Solve problems involving similar shapes where the scale factor is known or can be found.											
a	3	1									
b	5	1									
c		1									

question	answer	marks	notes
d		1	
e	The long and short sides must add up to 28cm (e.g. 20 cm and 8 cm / 24 cm and 4 cm)	2	
4. Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.			
a	120 tennis balls	1	
b	72 seeds	2	2 marks for correct answer. 1 mark for correct method but 1 mistake in calculating
c	18 runs	2	2 marks for correct answer. 1 mark for correct method but 1 mistake in calculating
		Total 25	