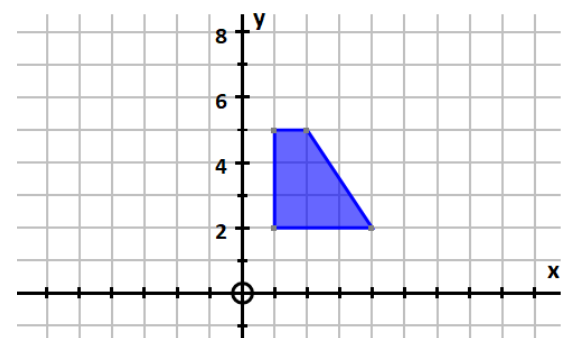
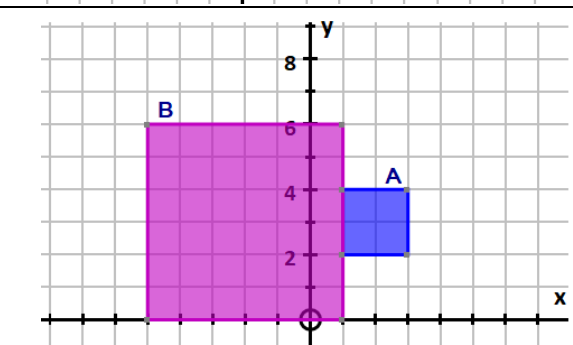
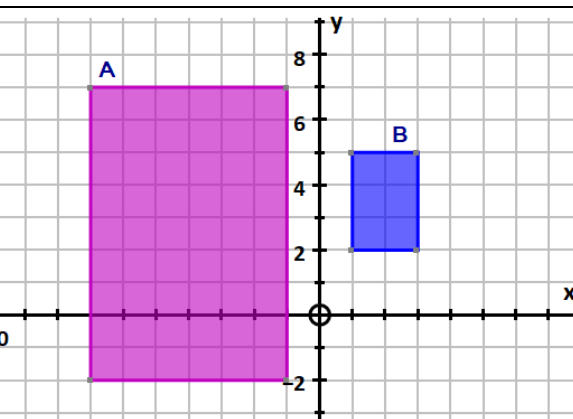
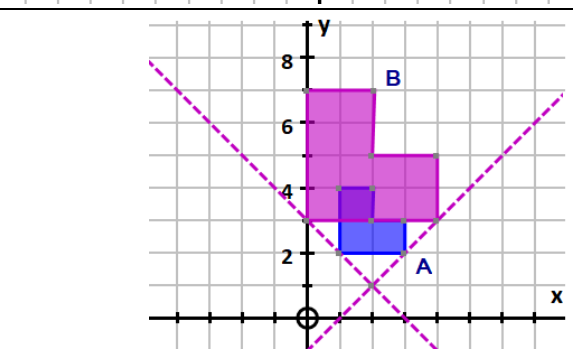


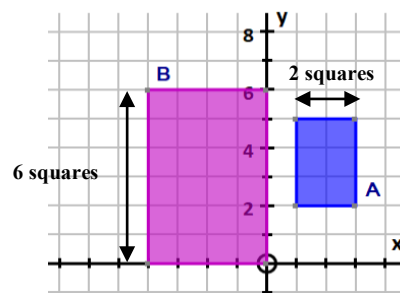
<p>1 Use the centre and scale factor to carry out an enlargement with a positive integer scale factor</p>	
<p>a Enlarge the quadrilateral using a scale factor of 2 and centre of enlargement $(-2, 4)$</p>	
<p>b Sara is asked to enlarge square A using a scale factor of 3 and a centre of enlargement $(1, 3)$. She labels her enlargement B. Do you agree with Sara? Explain why.</p>	

<p>2 Find the centre of enlargement</p>	
<p>a Rectangle B is enlarged to give rectangle A. Find the coordinates of the centre of enlargement.</p>	
<p>b Haydn is asked to find the centre of enlargement that maps shape A onto shape B. He draws some lines, and then writes <i>The centre of enlargement is $(1, 2)$</i> Haydn is wrong. Explain why.</p>	

<p>3 Find the scale factor of an enlargement</p>	
<p>a Look at question 2a. Find the scale factor of the enlargement.</p>	

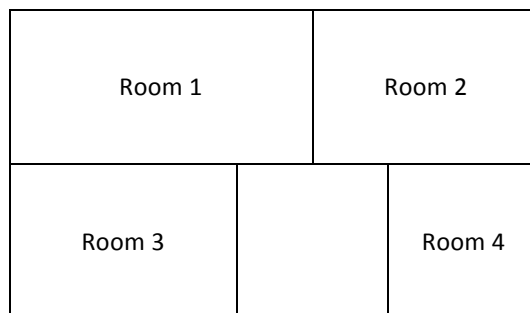


- b** Billy is finding the scale factor for this enlargement.
- He knows that shape A is mapped onto shape B.
- He counts the two distances as 2 squares and 6 squares.
- Billy thinks that the scale factor must be 3.
- Do you agree? Explain why.



4 Use scale diagrams, including maps

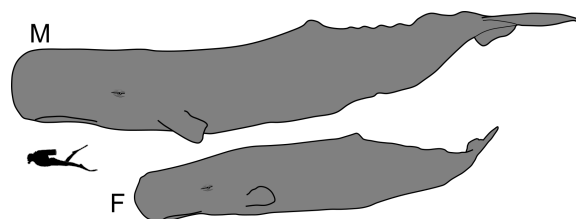
- a** The plan of a building is drawn to a scale of 1:200.
- Work out the real-life length and width of Room 1.



- b** Nora is using a map with a scale of 1 cm to 500 metres.
- She measures a distance on the map as 5.2 cm. Nora works out that this means the real distance is 2.6 kilometres.
- Do you agree? Explain why.

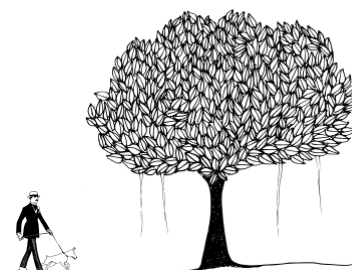
5 Use the concept of scaling in diagrams

- a** The diagram shows a male whale, a female whale and a diver.
- The diagram is drawn to scale.
- Estimate the length of a male whale.



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- b** The diagram shows a tree and a man walking a dog.
- The diagram is drawn to scale.
- Poppy thinks that the tree could be 10 metres tall.
- Do you agree? Explain why.



6 Interpret plans and elevations

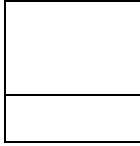
- a** Here is the plan of a 3D shape.
- Write the name of a 3D shape that has this plan.
- Write the name of a different 3D shape that has the same plan.



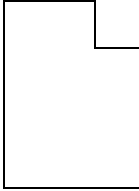
b Sally is given this information about the plan and front elevation of a shape.

She thinks that the shape is a prism.

Do you agree? Explain your answer.



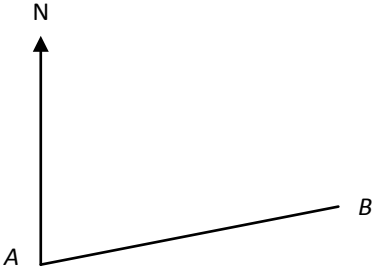
Plan



Front elevation

7 Understand and use bearings

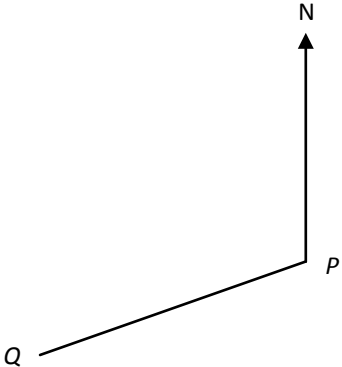
a Measure the bearing of B from A .



b Tom measures the bearing of Q from P .

He writes down 110° .

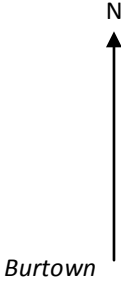
Tom is wrong. Explain why.



8 Construct scale diagrams involving bearings

a Ashby is 40 km from Burtown on a bearing of 145° .

Construct an accurate diagram to show the position of Ashby. Use a scale of 1 cm to 10 km.




b C is on a bearing of 065° from A .

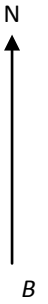
C is on a bearing of 280° from B .

Carrie thinks that C is 75 kilometres from A .

Do you agree? Explain your answer.



A



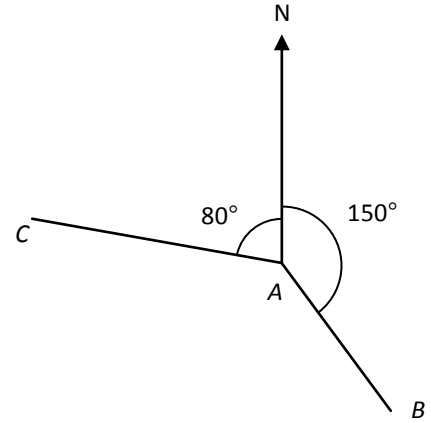
B

Scale 1 cm to 25 km



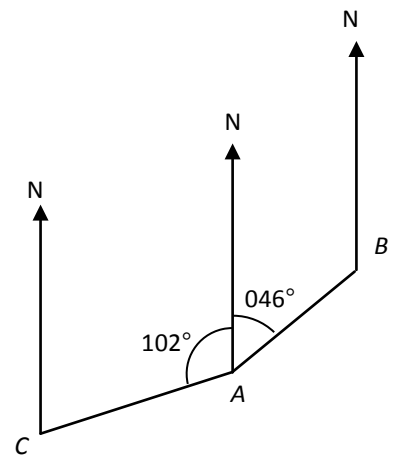
9 Solve geometrical problems using bearings

a Work out the bearing of *A* from *B*.



b Ryan thinks that the bearing of *A* from *C* is 258° .

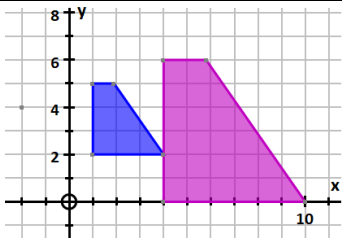
Ryan is wrong. Explain why.



	Key learning point	☹	☺	☺	☺
1	Use the centre and scale factor to carry out an enlargement with a positive integer scale factor				
2	Find the centre of enlargement				
3	Find the scale factor of an enlargement				
4	Use scale diagrams, including maps				
5	Use the concept of scaling in diagrams				
6	Interpret plans and elevations				
7	Understand and use bearings				
8	Construct scale diagrams involving bearings				
9	Solve geometrical problems using bearings				

Top three improvements for me to make



1a		
1b	No, and reason; e.g. she has used the wrong centre	
2a	(5, 4)	
2b	The coordinates are the wrong way round	
3a	3	
3b	The two lengths are not corresponding	
4a	4 metres by 8 metres	
4b	Yes	
5a	14 m to 18 m	
5b	No, e.g. a man is about 2 metres tall so the tree is about 6 metres tall	
6a	e.g. cube, cuboid	
6b	Yes, e.g. constant cross-section	
7a	079°	
7b	Measured anticlockwise	
8a	Correct diagram	
8b	No, supported by correct diagram	
9a	330°	
9b	Explanation; e.g. it is less than 90°	

