

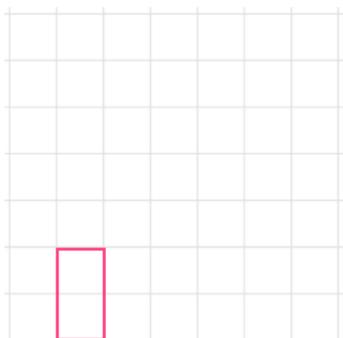
# Enlargement - Worksheet

**Skill**

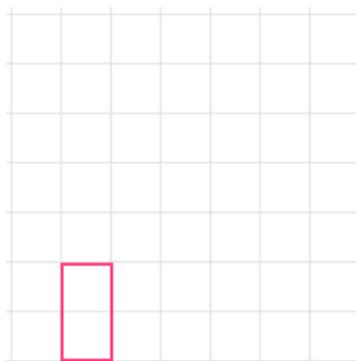
**Group A - enlargement on a grid**

Enlarge the shape:

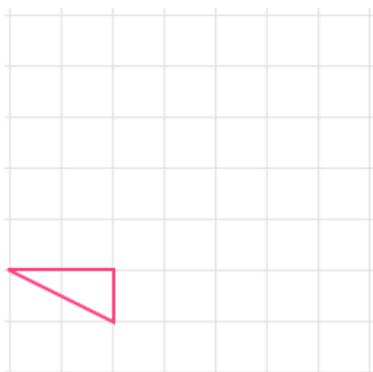
**1) scale factor 2**



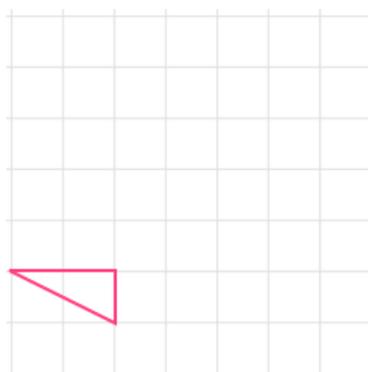
**2) scale factor 3**



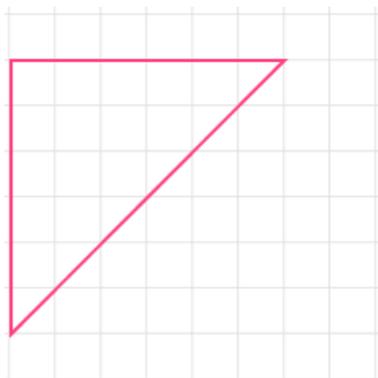
**3) scale factor 2**



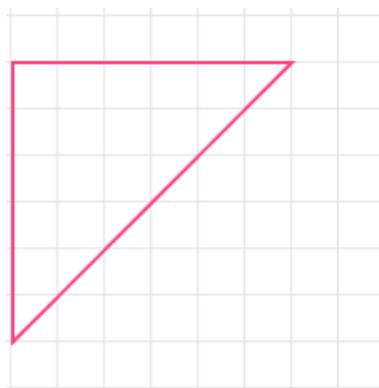
**4) scale factor 3**



**5) scale factor  $\frac{1}{2}$**



**6) scale factor  $\frac{1}{3}$**



**Group B - with a centre of enlargement**

Enlarge the shape about the point:

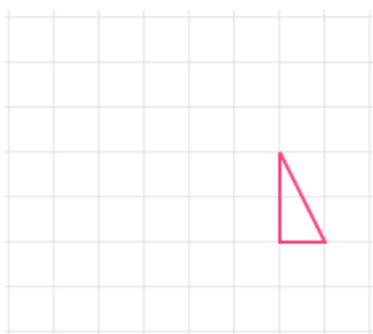
**1) scale factor 2**



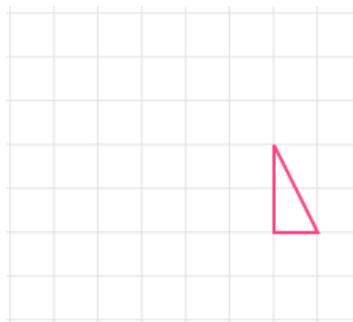
**2) scale factor 3**



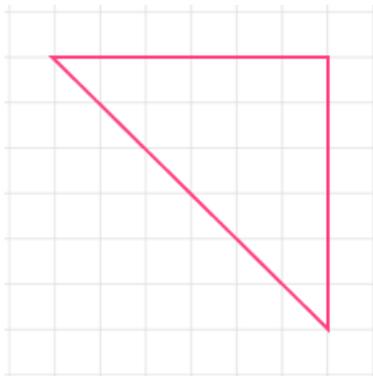
**3) scale factor 2**



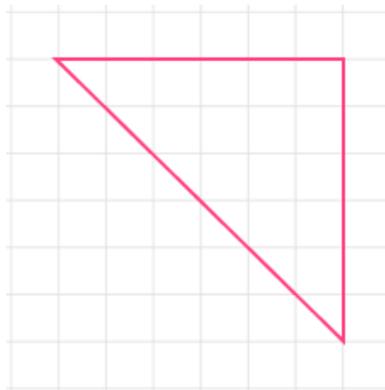
**4) scale factor 3**



**5) scale factor  $\frac{1}{2}$**



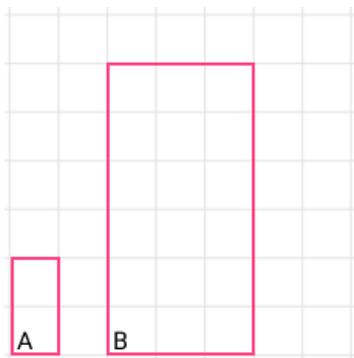
**6) scale factor  $\frac{1}{3}$**



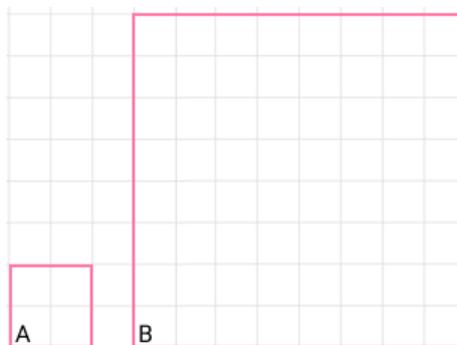
**Group C - calculate the scale factor**

Calculate the scale factor of the enlargement from shape A to shape B.

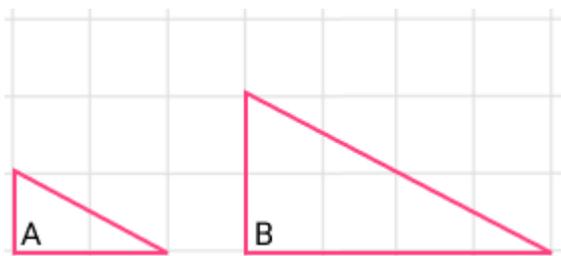
1)



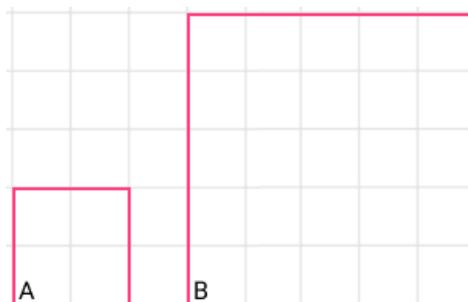
2)



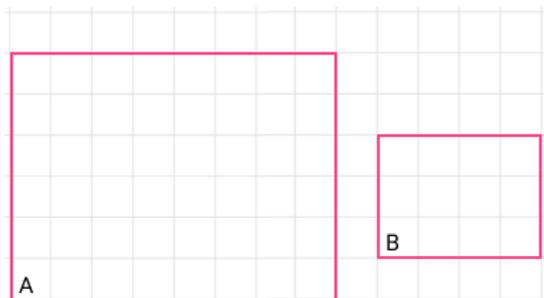
3)



4)



5)



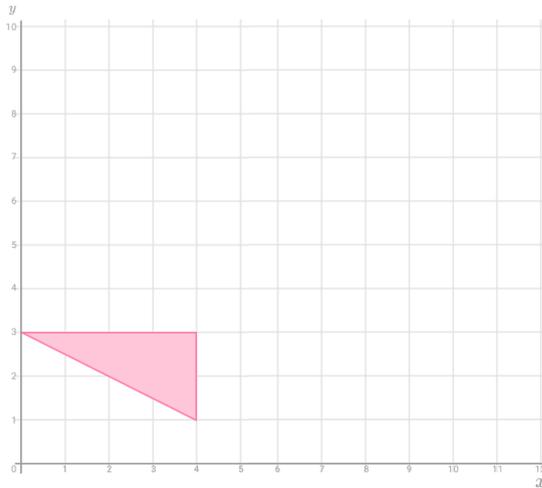
6)



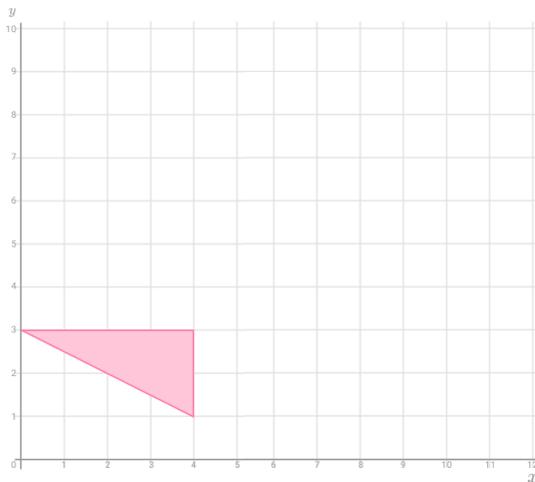
# Enlargement - Worksheet

## Applied

1) a) Enlarge the shaded shape by scale factor 2 about O.

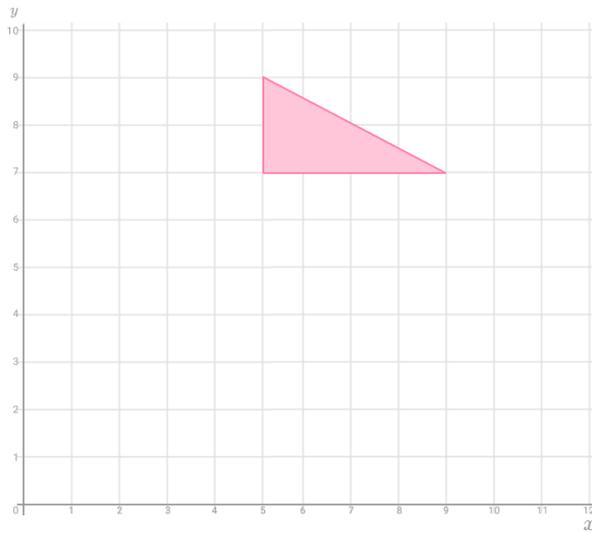


b) Enlarge the shaded shape by scale factor 3 about O.



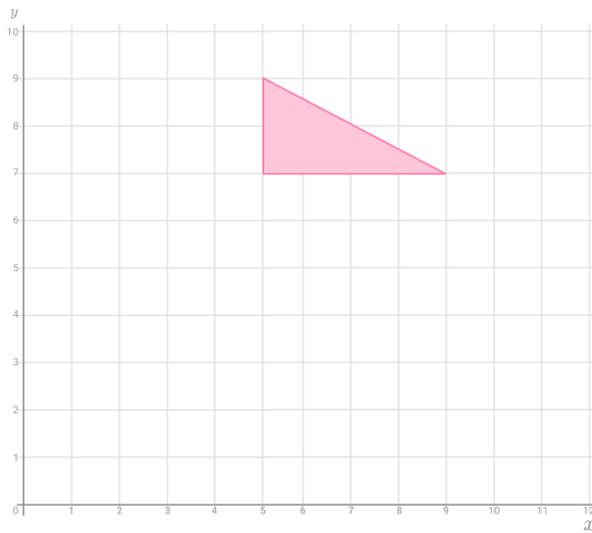
2) a)

Enlarge the shaded shape by scale factor 2 about (9,9).



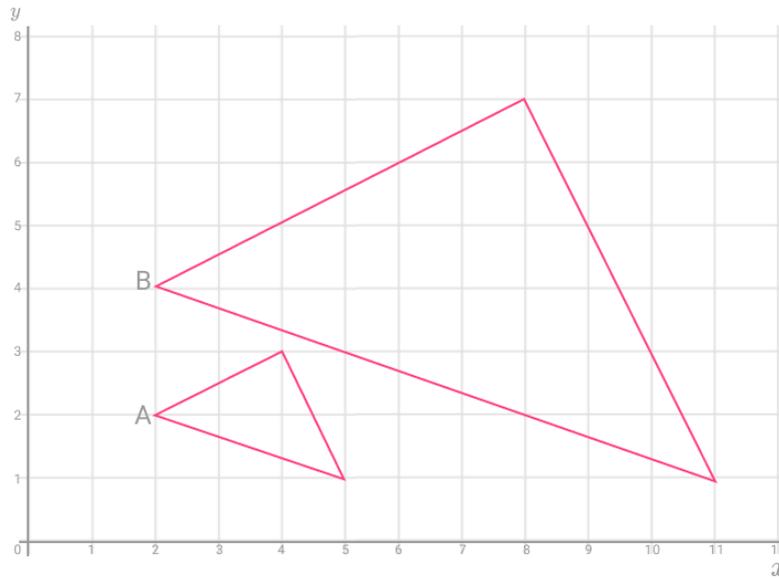
b)

Enlarge the shaded shape by scale factor  $\frac{1}{2}$  about (9,9).



3) a)

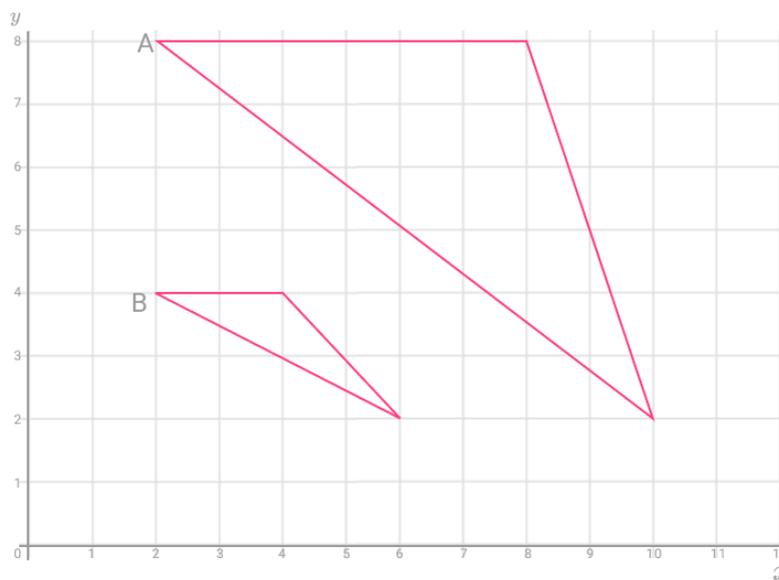
Shape A has been enlarged to make shape B.



Find the scale factor and the coordinates of the centre of enlargement.

b)

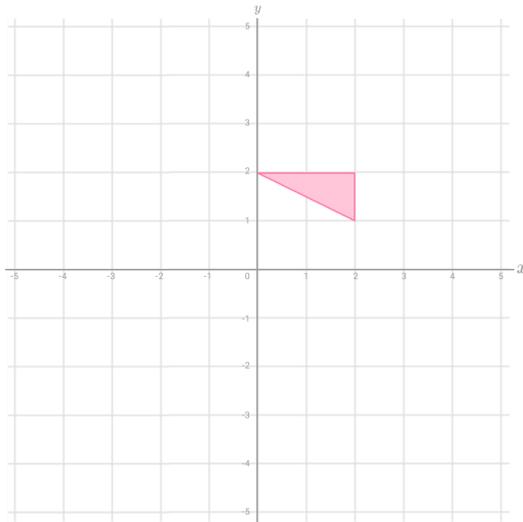
Shape A has been enlarged to make shape B.



Find the scale factor and the coordinates of the centre of enlargement.

4) a)

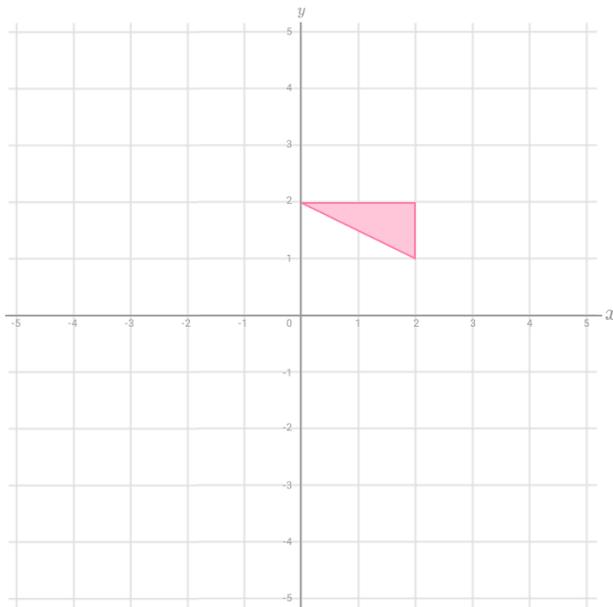
HIGHER



Enlarge the shaded shape by scale factor  $-2$  about  $O$ .

b)

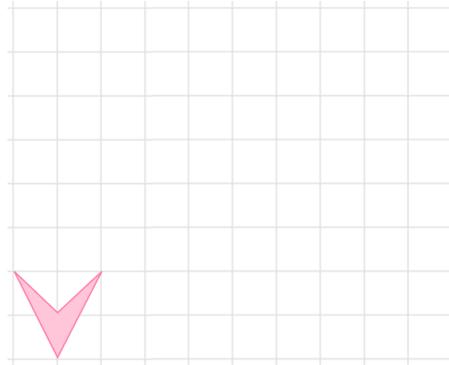
HIGHER



Enlarge the shaded shape by scale factor  $-1$  about  $O$ .

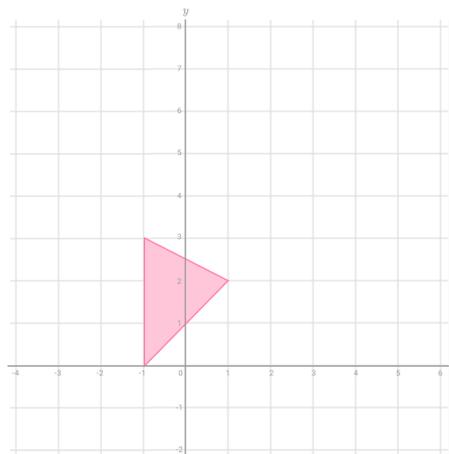
## Enlargement - Exam Questions

- 1) On the grid, draw an enlargement of the shape with a scale factor 3.



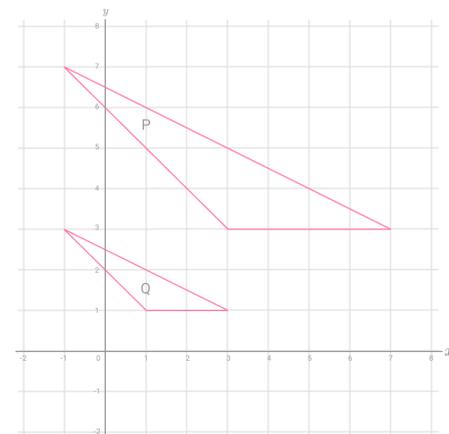
**(2 marks)**

- 2) On the grid, draw an enlargement of the shape with a scale factor 3 centre  $(0, -1)$



**(2 marks)**

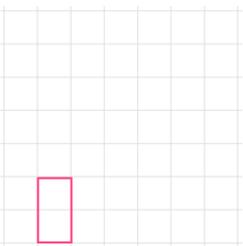
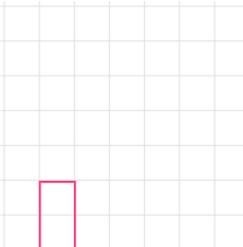
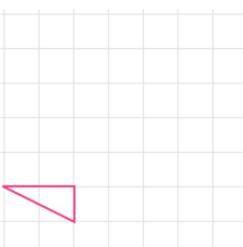
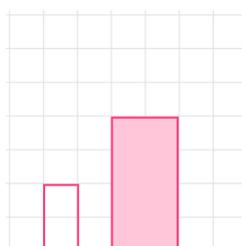
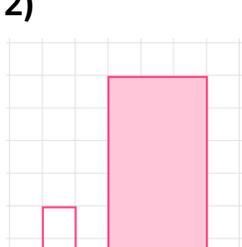
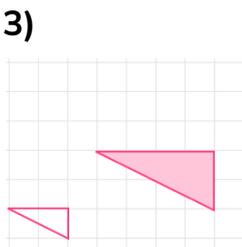
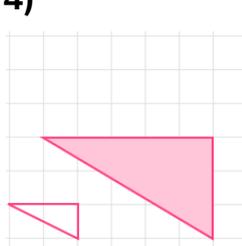
- 3) Describe fully the single transformation which maps shape P onto Shape Q.



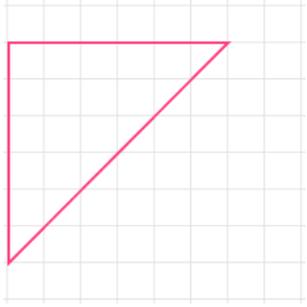
.....  
 .....  
 .....

**(3 marks)**

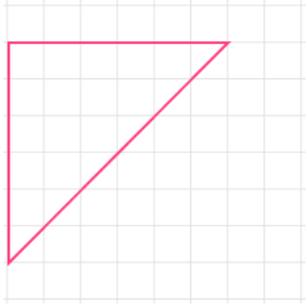
# Enlargement - Answers

	Question	Answer
Group A	Skill Questions	
	<p>Enlarge the shape:</p> <p><b>1) scale factor 2</b></p>  <p><b>2) scale factor 3</b></p>  <p><b>3) scale factor 2</b></p>  <p><b>4) scale factor 3</b></p> 	<p><b>1)</b></p>  <p><b>2)</b></p>  <p><b>3)</b></p>  <p><b>4)</b></p> 

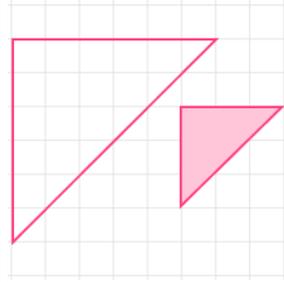
5) scale factor  $\frac{1}{2}$



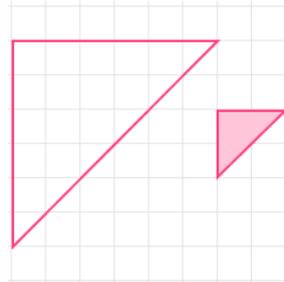
6) scale factor  $\frac{1}{3}$



5)



6)



Group B

Enlarge the shape about the point:

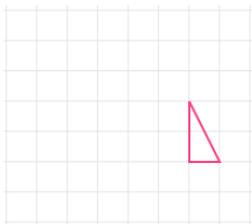
1) scale factor 2



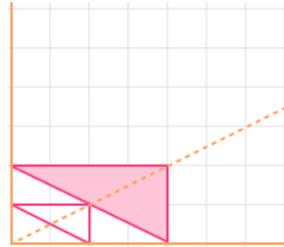
2) scale factor 3



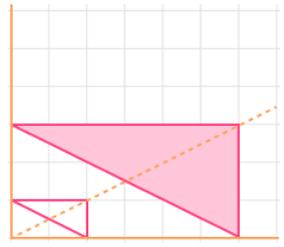
3) scale factor 2



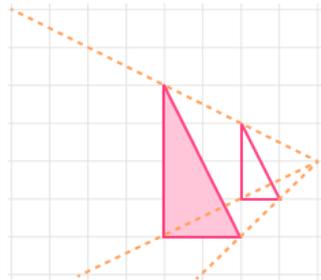
1)



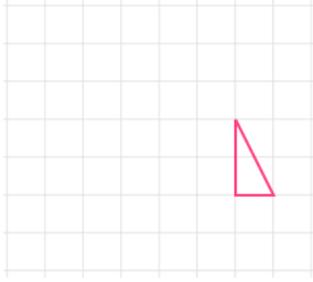
2)



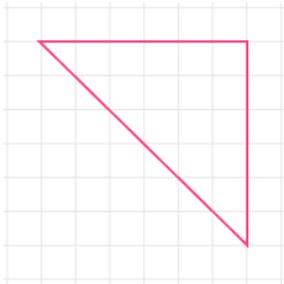
3)



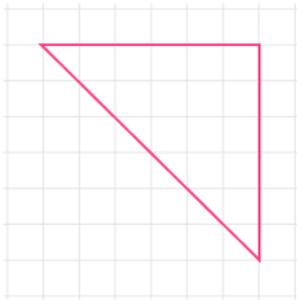
4) scale factor 3



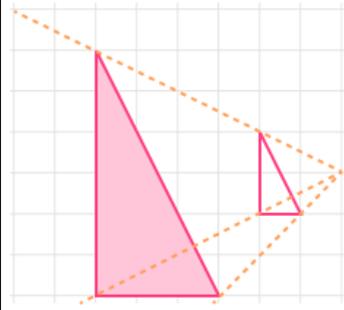
5) scale factor  $\frac{1}{2}$



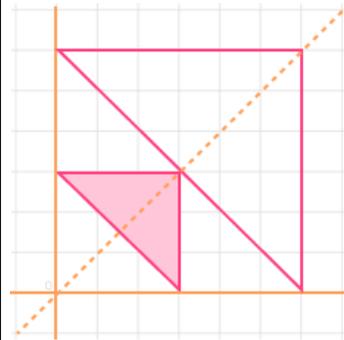
6) scale factor  $\frac{1}{3}$



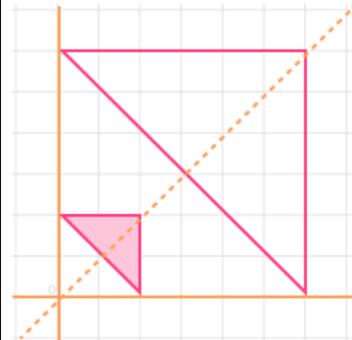
4)



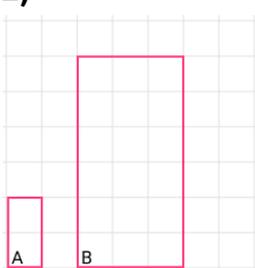
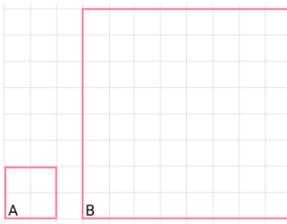
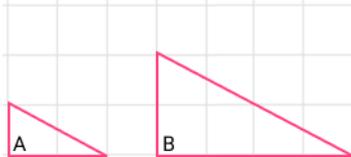
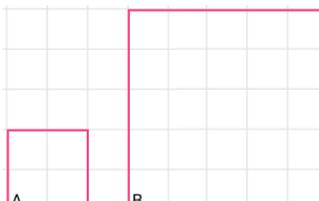
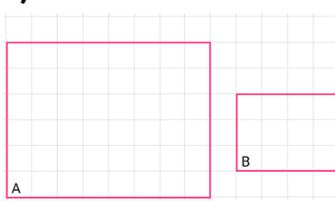
5)



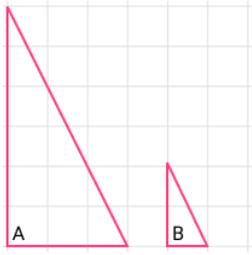
6)



## Enlargement - Answers

	Question	Answer
Group C	Skill Questions	
	<p>Rubric:</p> <p><b>1)</b></p>  <p><b>2)</b></p>  <p><b>3)</b></p>  <p><b>4)</b></p>  <p><b>5)</b></p> 	<p><b>1)</b> Scale factor 3</p> <p><b>2)</b> Scale factor 4</p> <p><b>3)</b> Scale factor 2</p> <p><b>4)</b> Scale factor <math>\frac{3}{2}</math> or <math>1\frac{1}{2}</math> or 1.5</p>

6)



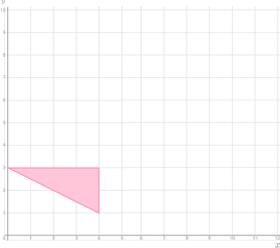
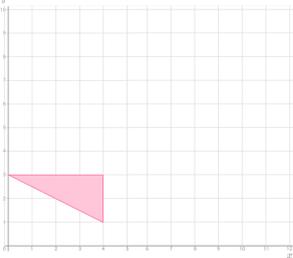
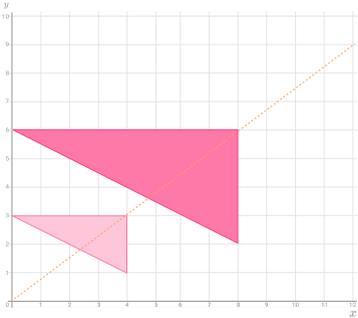
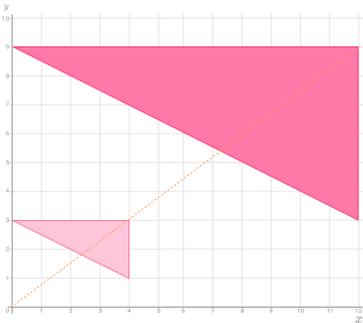
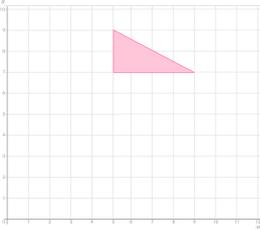
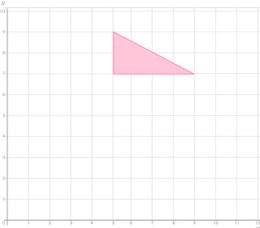
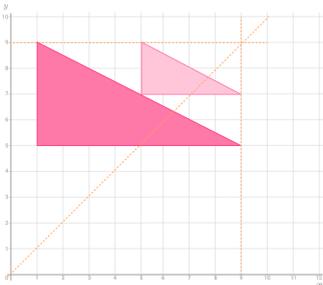
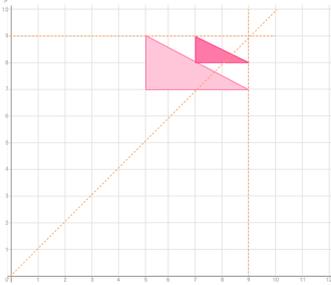
5)

Scale factor  $\frac{1}{2}$  or 0.5

6)

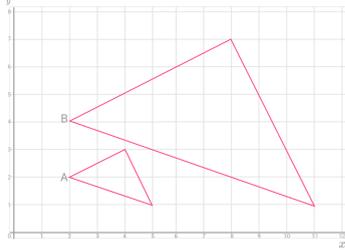
Scale factor  $\frac{1}{3}$

# Enlargements - Answers

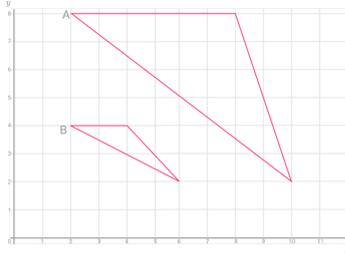
	Question	Answer
	Applied Questions	
1)	<p>a) Enlarge the shaded shape scale factor 2 about O.</p>  <p>Enlarge the shaded shape scale factor 3 about O.</p> <p>b)</p> 	<p>a)</p>  <p>b)</p> 
2)	<p>a) Enlarge the shaded shape scale factor 2 about (9,9).</p>  <p>Enlarge the shaded shape scale factor <math>\frac{1}{2}</math> about (9,9).</p> <p>b)</p> 	<p>a)</p>  <p>b)</p> 

3)

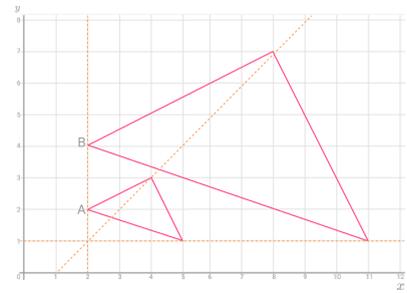
a) Shape A has been enlarged to make shape B.  
Find the scale factor and the coordinates of the centre of enlargement.



b) Shape A has been enlarged to make shape B.  
Find the scale factor and the coordinates of the centre of enlargement.

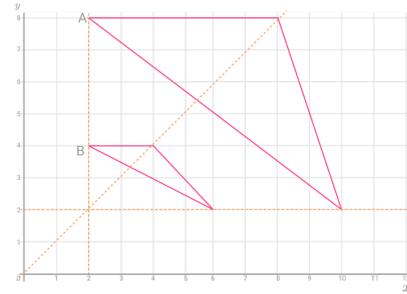


a)



Scale factor 3 about centre of enlargement (2,1)

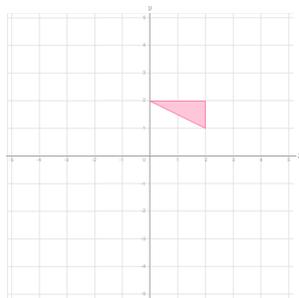
b)



Scale factor  $\frac{1}{2}$  about centre of enlargement (2,2)

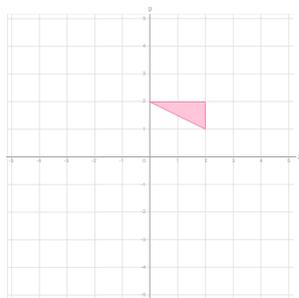
4)

a) HIGHER - Enlarge the shaded shape by scale factor -2 about O.

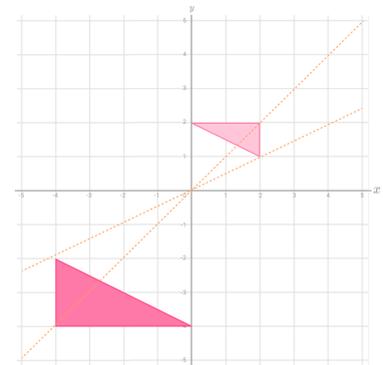


HIGHER - Enlarge the shaded shape by scale factor -1 about O.

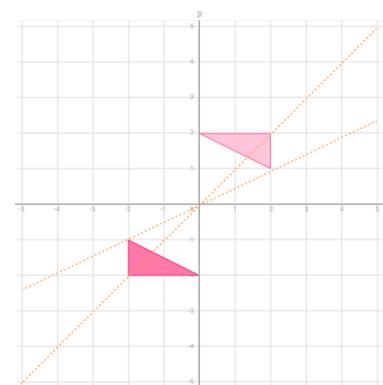
b)



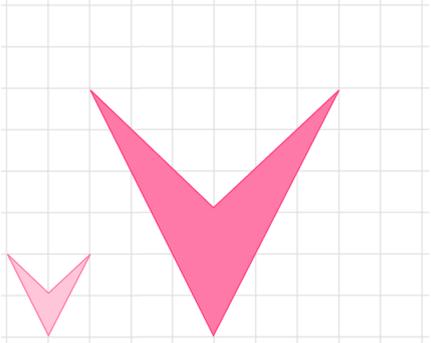
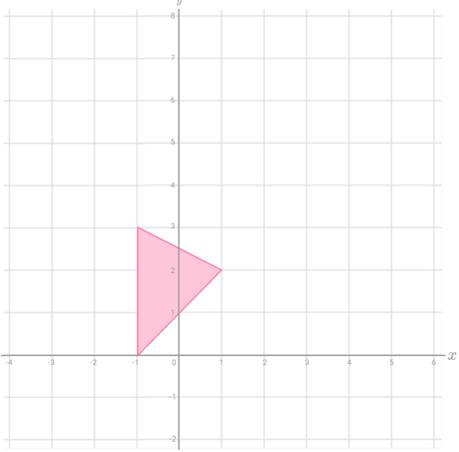
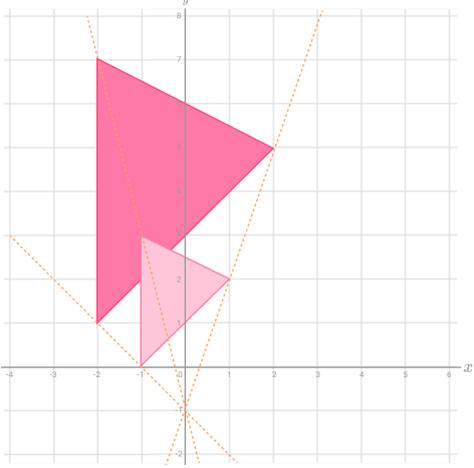
a)



b)

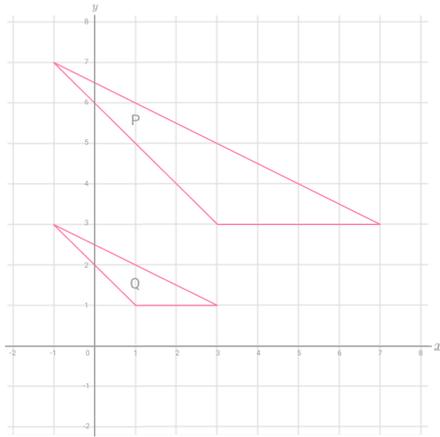


## Enlargement - Mark Scheme

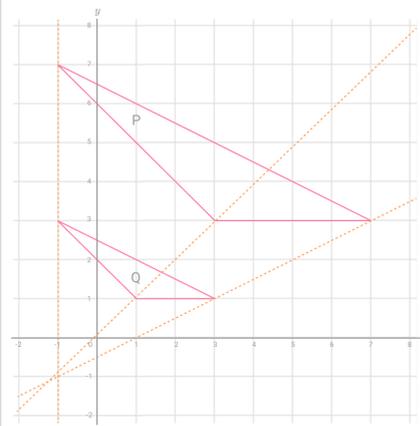
	Question	Answer	
	Exam Questions		
1)	<p>On the grid, draw an enlargement of the shape with a scale factor 3.</p> 	 <p>For 2 correct sides <b>(1)</b> For all 4 correct sides <b>(1)</b></p>	<b>(2)</b>
2)	<p>On the grid, draw an enlargement of the shape with a scale factor 3 centre <math>(0, -1)</math></p> 	 <p>For one correct vertex <b>(1)</b> For second correct vertex <b>(1)</b> For fully correct triangle <b>(1)</b></p>	<b>(3)</b>

3)

Describe fully the single transformation which maps shape P onto Shape Q.



(3)



Enlargement (1)

Scale factor  $\frac{1}{2}$  (1)

Centre of enlargement  $(-1, -1)$  (1)

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