

Intro Screen



**Briteschool Pre-IGCSE Maths**  
**Summer Term 2009**

*What are we going to do today ?*

**Revise Transformations**

Reflections

Translations

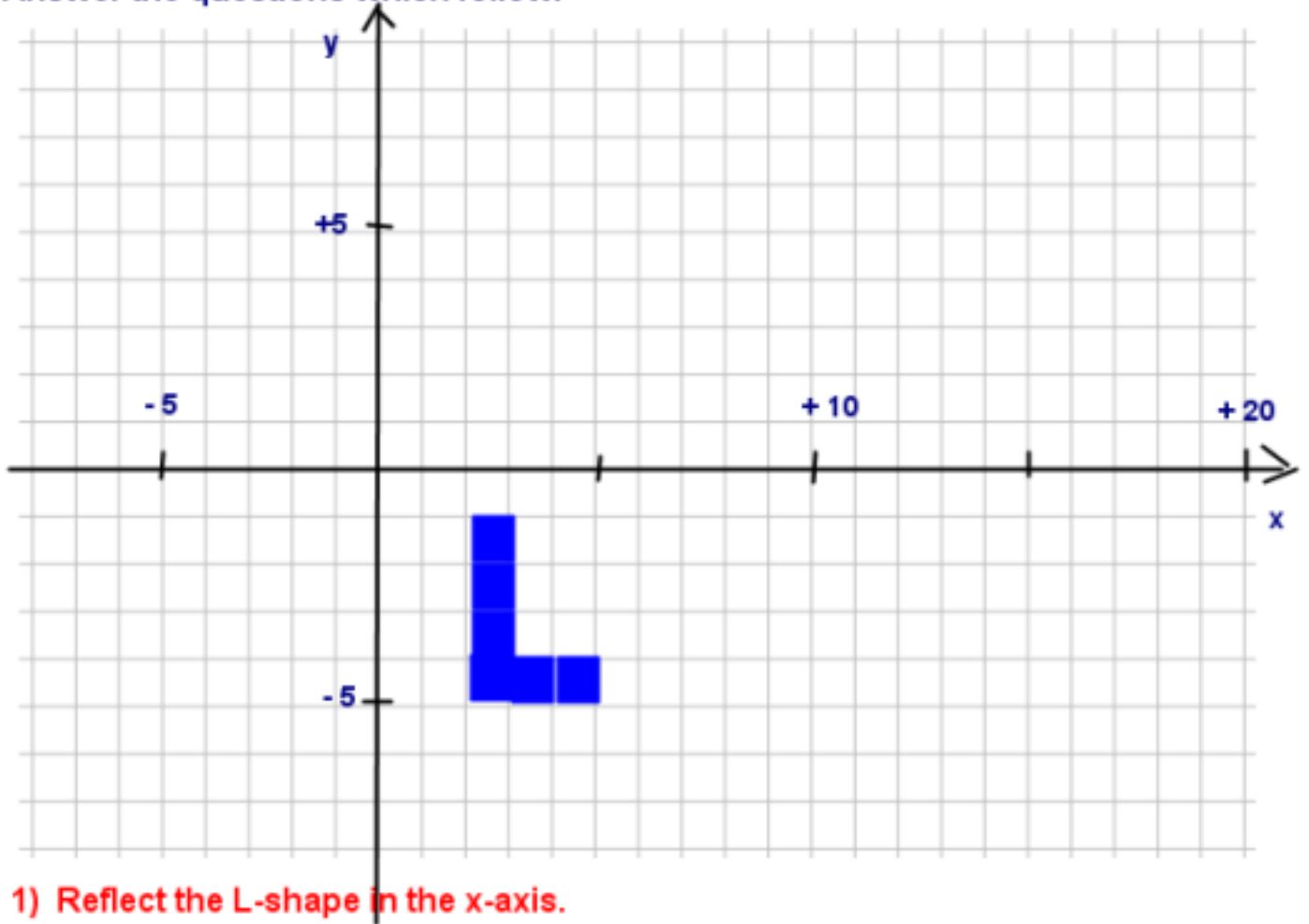
Rotations

Enlargements

*This lesson should take about 2 hours*

Transformations 1

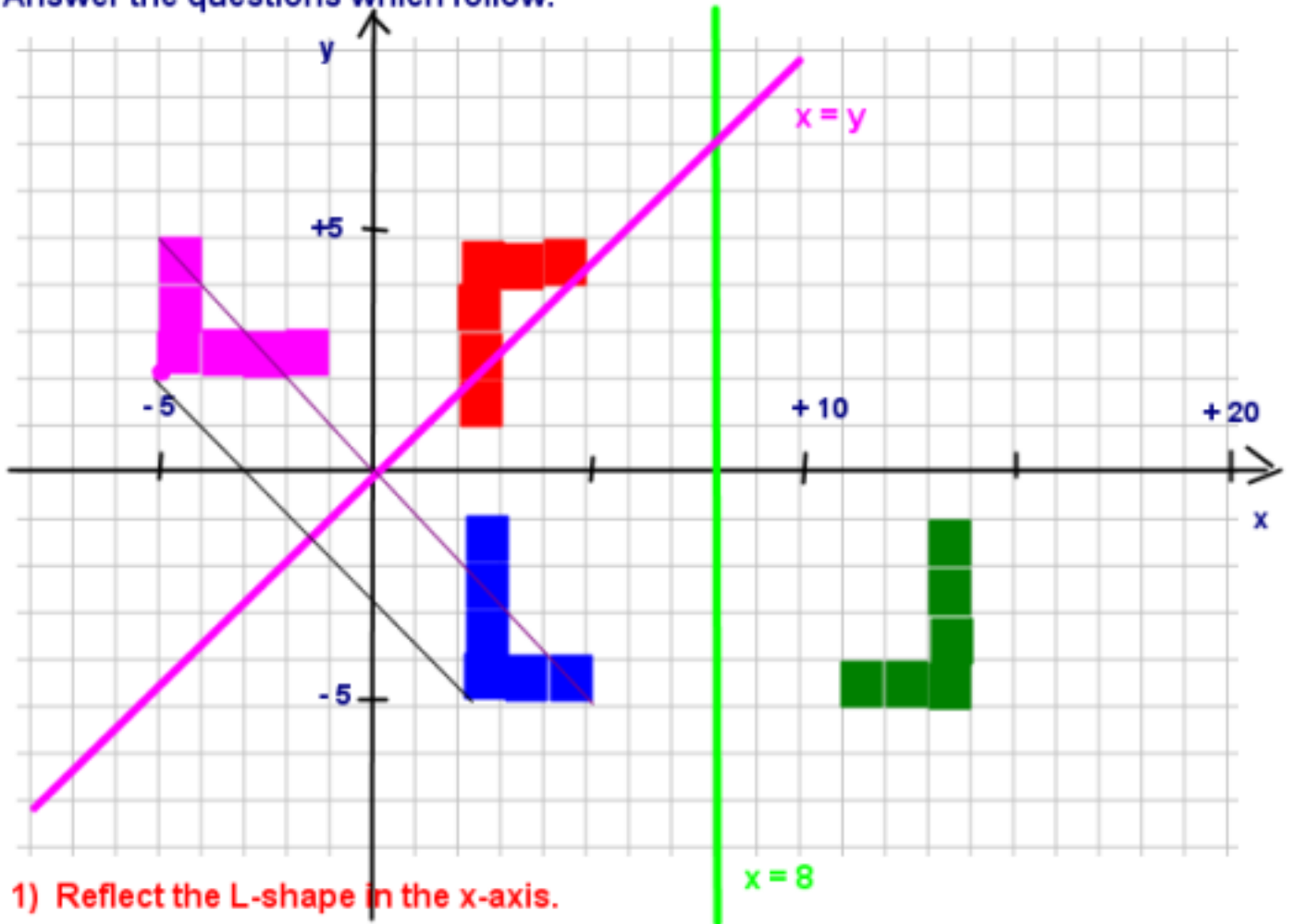
Copy the diagram below onto squared paper.  
Answer the questions which follow.



- 1) Reflect the L-shape in the x-axis.
- 2) Reflect the shape in the line  $x = +8$
- 3) Reflect the shape in the line  $x = y$

Transformations 1 - ANSWERS

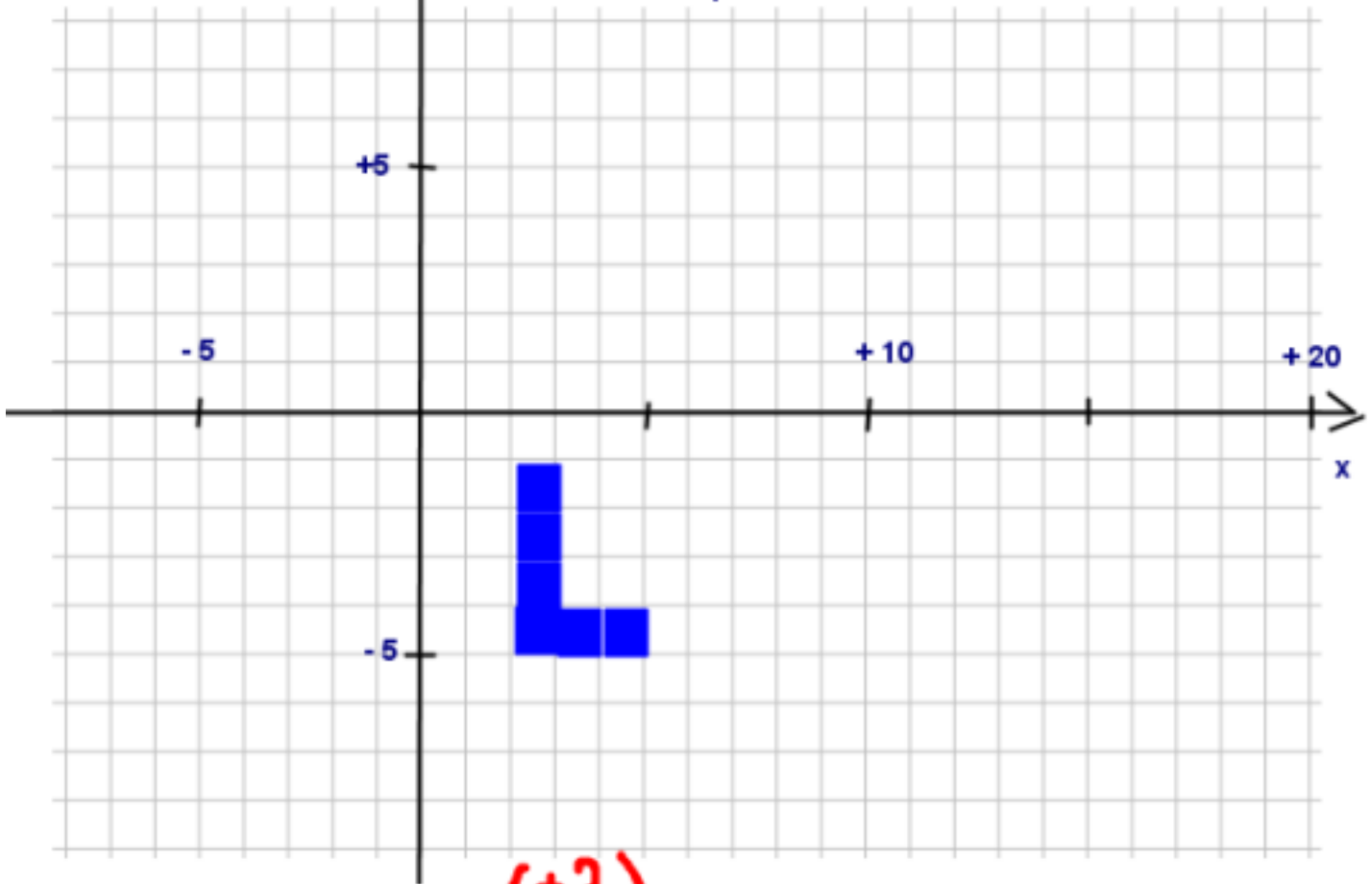
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Answer the questions which follow.



- 1) Reflect the L-shape in the x-axis.
- 2) Reflect the shape in the line  $x = +8$
- 3) Reflect the shape in the line  $x = y$

Transformations 2 - Translation

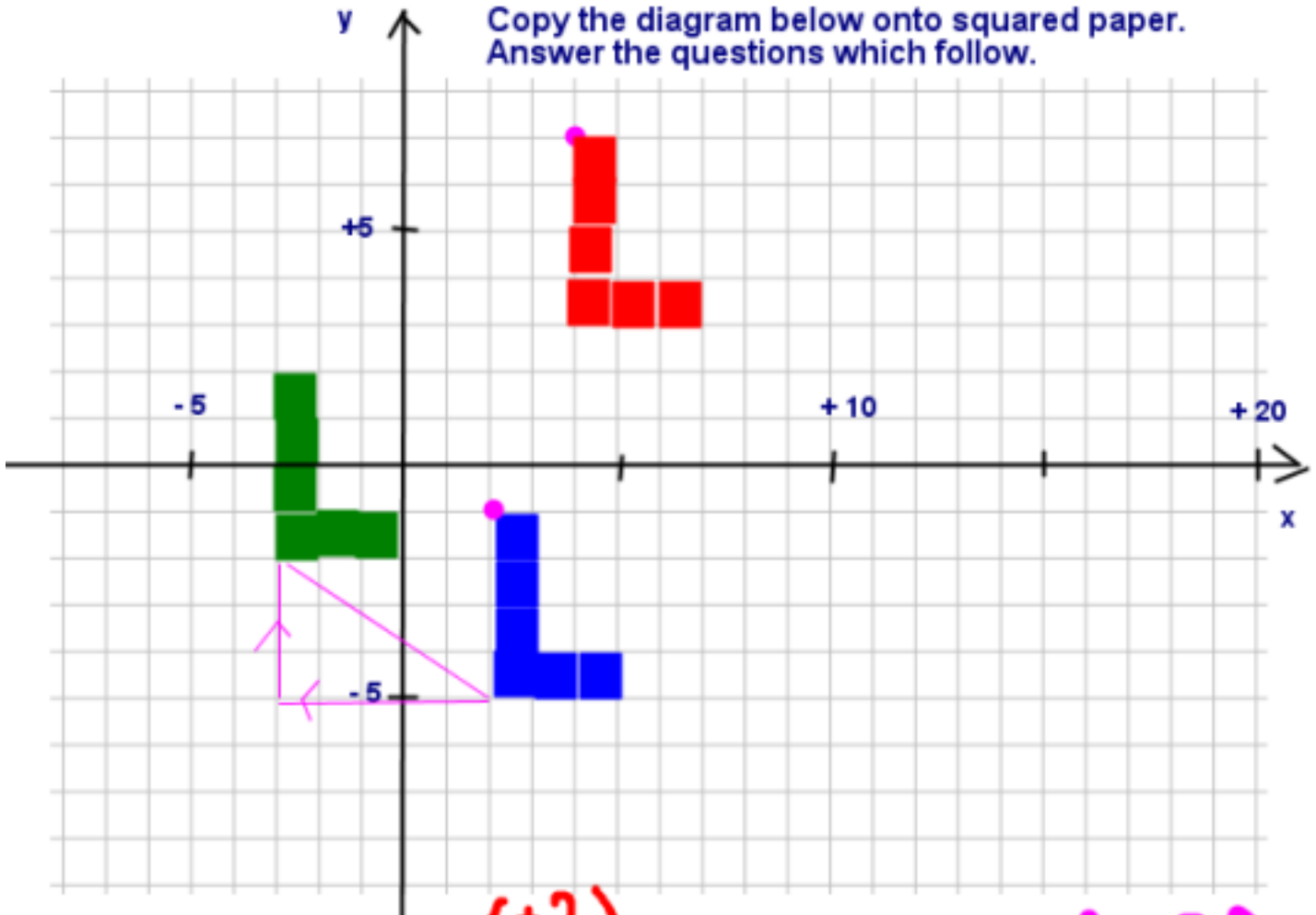
Copy the diagram below onto squared paper.  
Answer the questions which follow.



- 1) Translate the shape by  $\begin{pmatrix} +2 \\ +8 \end{pmatrix}$
- 2) Translate the shape by  $\begin{pmatrix} -5 \\ +3 \end{pmatrix}$

Transformations 2 - Translation ANSWER

Copy the diagram below onto squared paper.  
Answer the questions which follow.



- 1) Translate the shape by  $\begin{pmatrix} +2 \\ +8 \end{pmatrix}$
- 2) Translate the shape by  $\begin{pmatrix} -5 \\ +3 \end{pmatrix}$

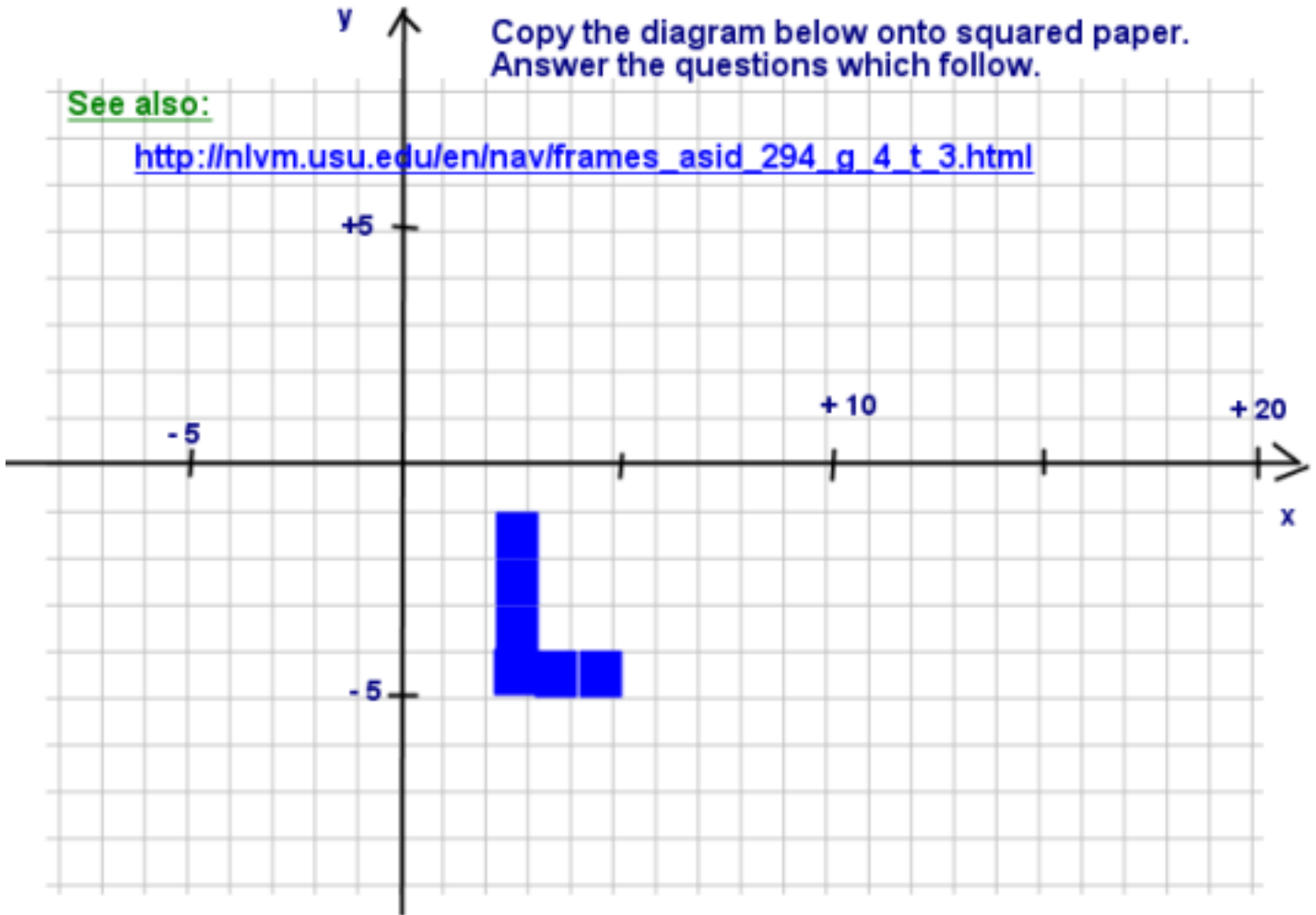
$(x, y)$   $\begin{pmatrix} x \\ y \end{pmatrix}$

Transformations 3 - Rotation

Copy the diagram below onto squared paper.  
Answer the questions which follow.

See also:

[http://nlvm.usu.edu/en/nav/frames\\_asid\\_294\\_g\\_4\\_t\\_3.html](http://nlvm.usu.edu/en/nav/frames_asid_294_g_4_t_3.html)

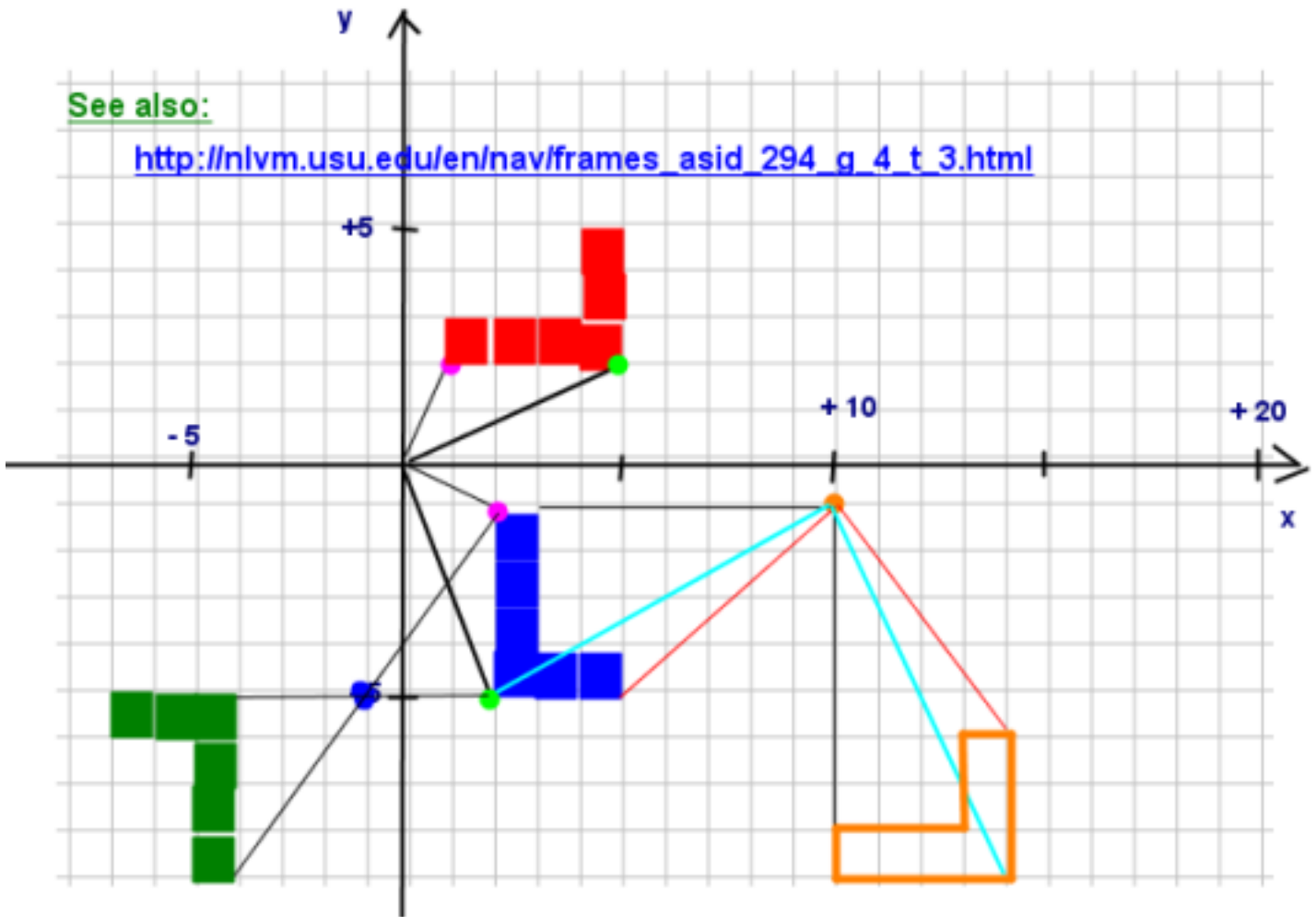


- 1) Rotate the shape 90 degrees anticlockwise about the origin.
- 2) Rotate the blue shape 180 degrees about the point  $(-1, -5)$
- 3) Rotate the shape 270 degrees about the point  $(+10, -1)$

Transformations 3 - Rotation ANSWER

See also:

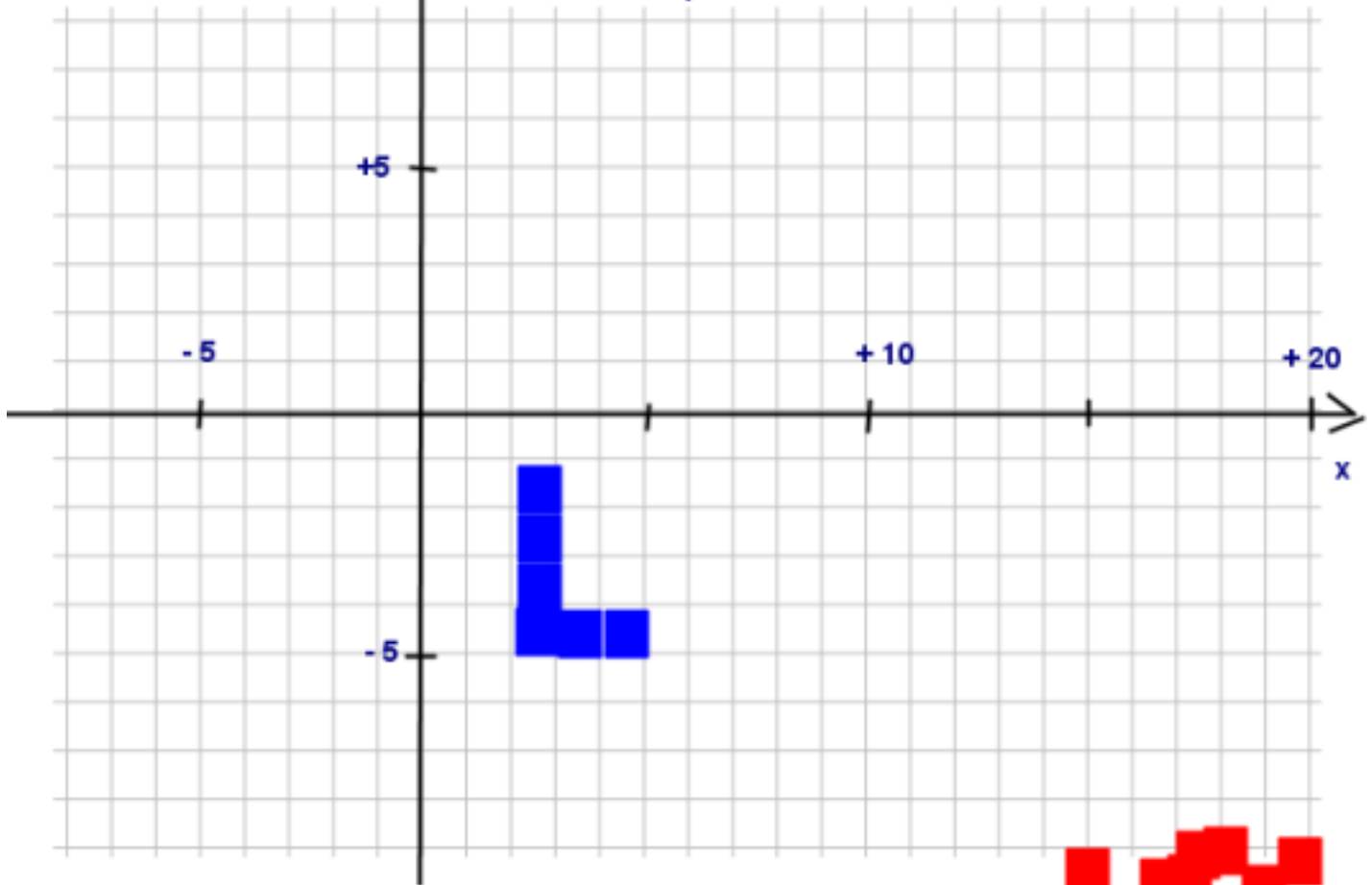
[http://nlvm.usu.edu/en/nav/frames\\_asid\\_294\\_g\\_4\\_t\\_3.html](http://nlvm.usu.edu/en/nav/frames_asid_294_g_4_t_3.html)



- 1) Rotate the shape 90 degrees anticlockwise about the origin.
- 2) Rotate the blue shape 180 degrees about the point  $(-1, -5)$
- 3) Rotate the shape 270 degrees about the point  $(+10, -1)$

Transformations 4 - Enlargement 1

Copy the diagram below onto squared paper.  
Answer the questions which follow.

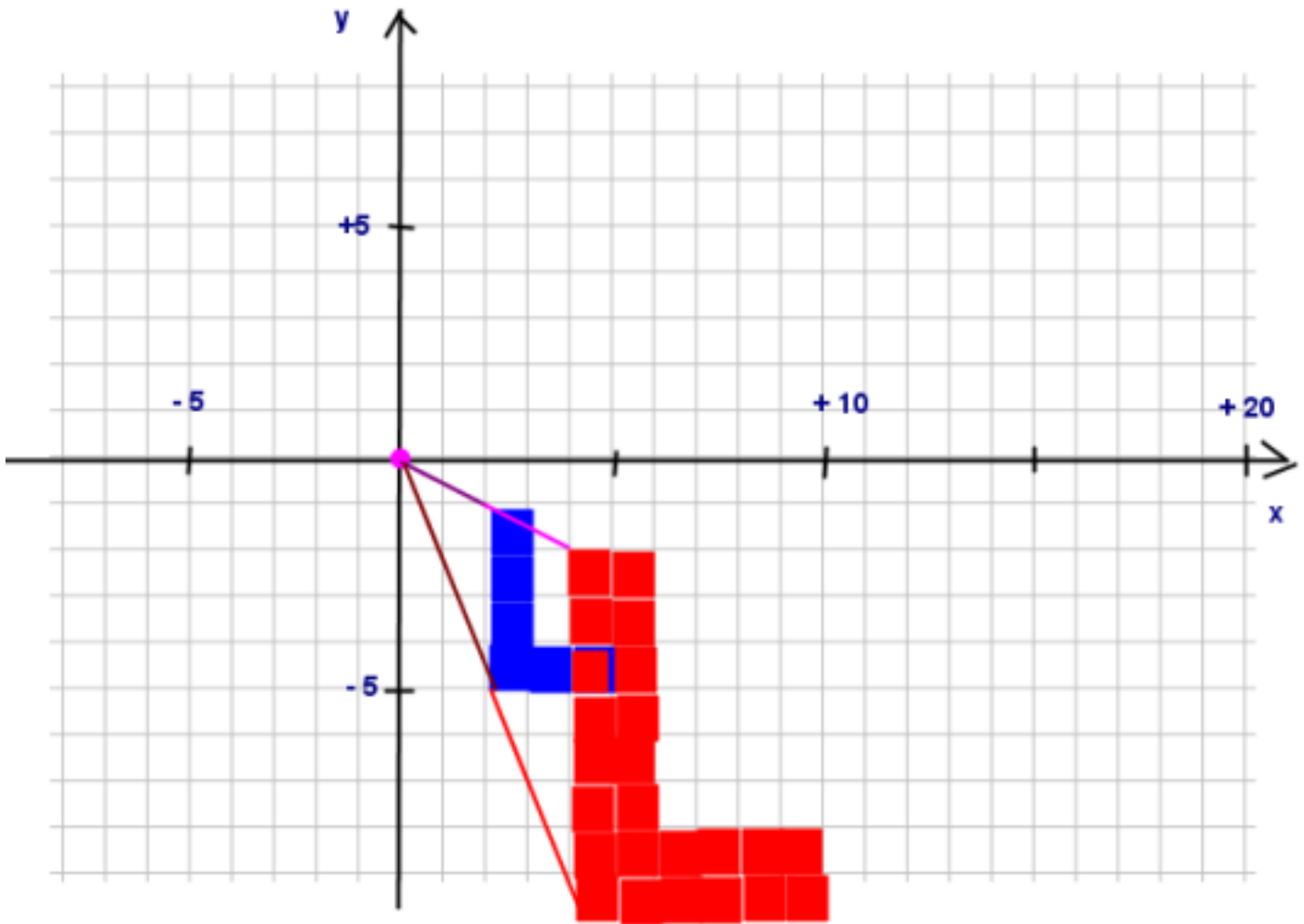


1) Enlarge the shape by a scale factor of two about the origin





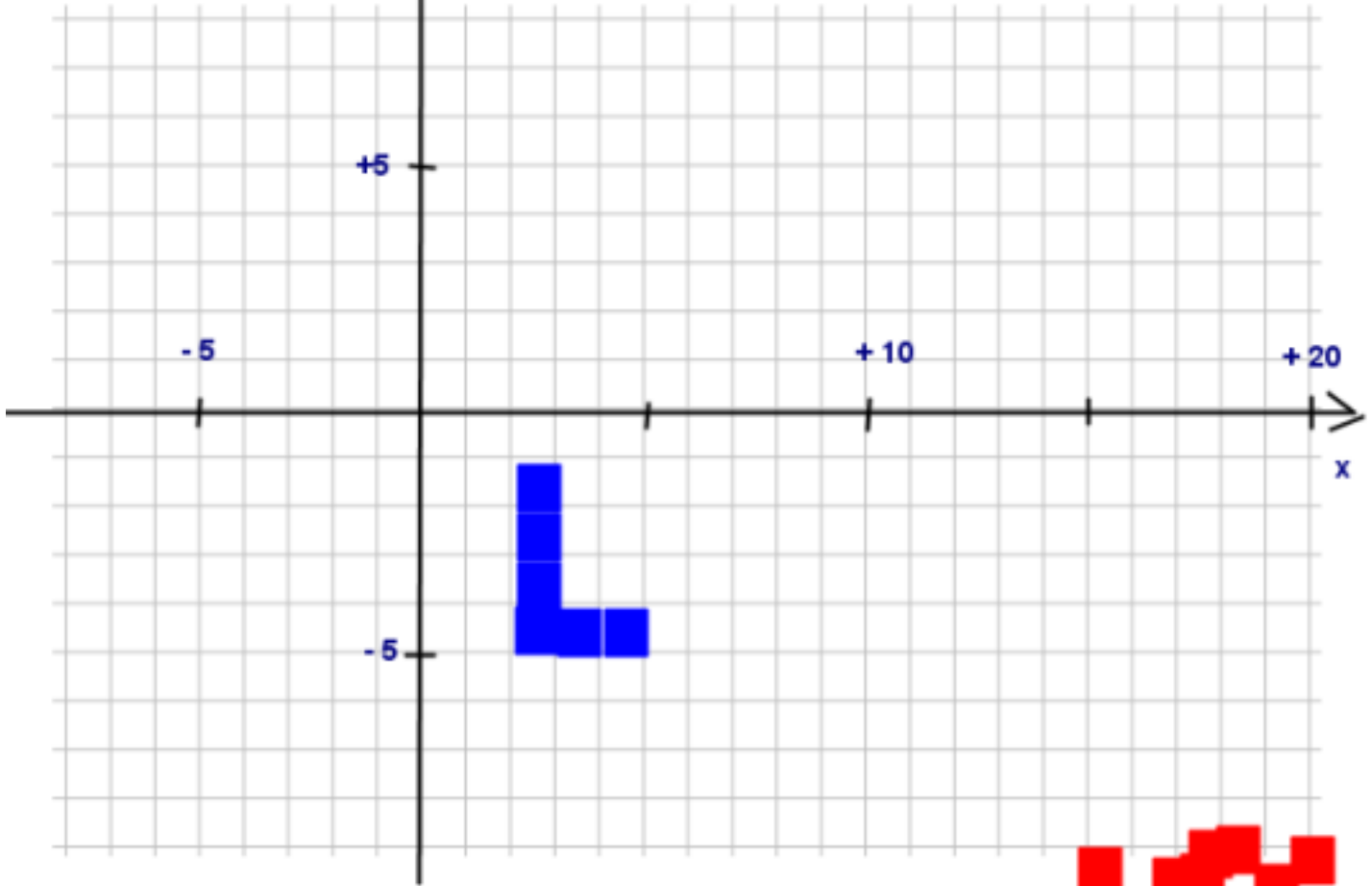
Transformations 4 - Enlargement 1 ANSWER



1) Enlarge the shape by a scale factor of two about the origin

Transformations - Enlargement 2

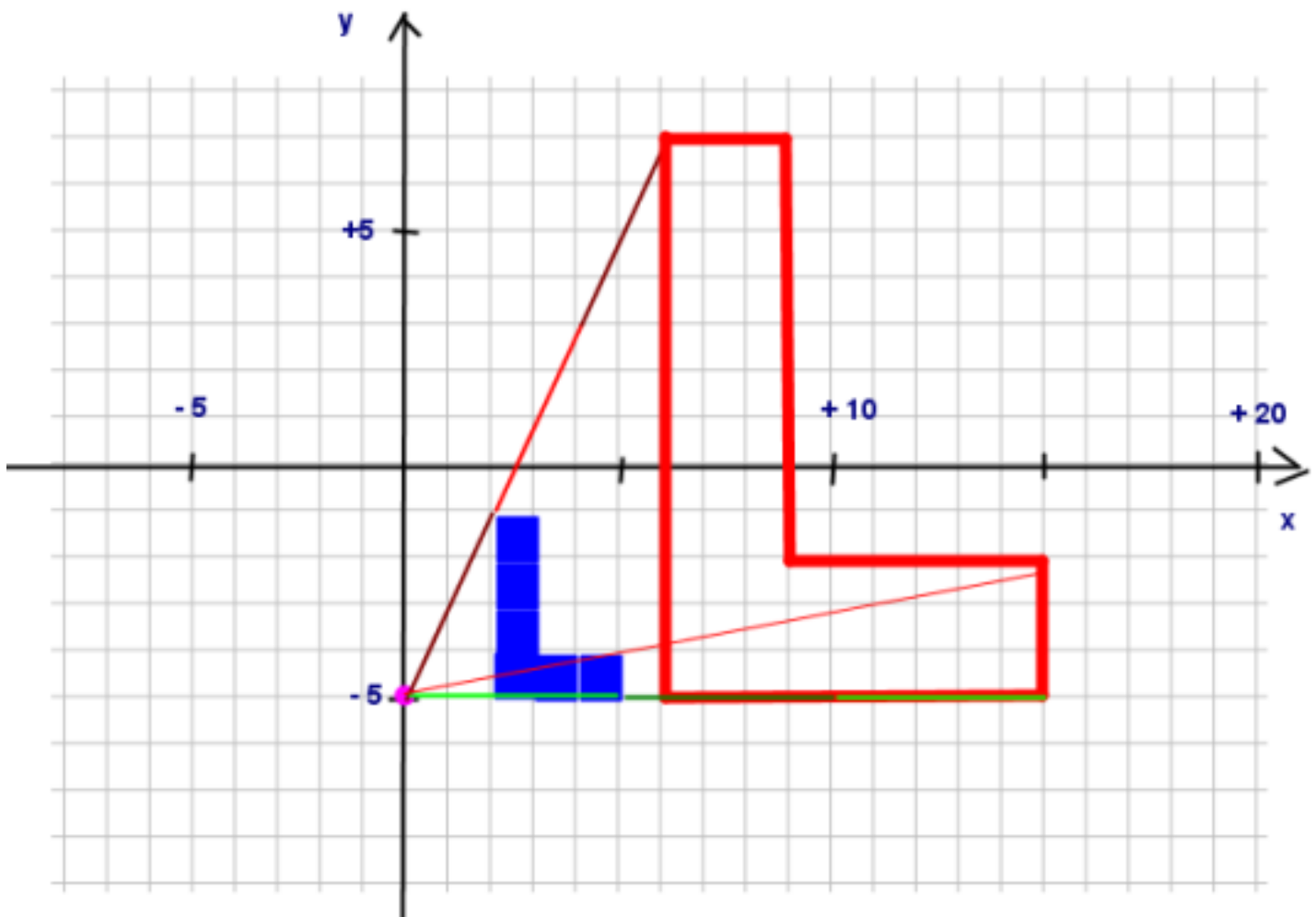
Copy the diagram below onto squared paper.  
Answer the questions which follow.



2) Enlarge the shape given by a scale factor of three about the point  $(0, -5)$



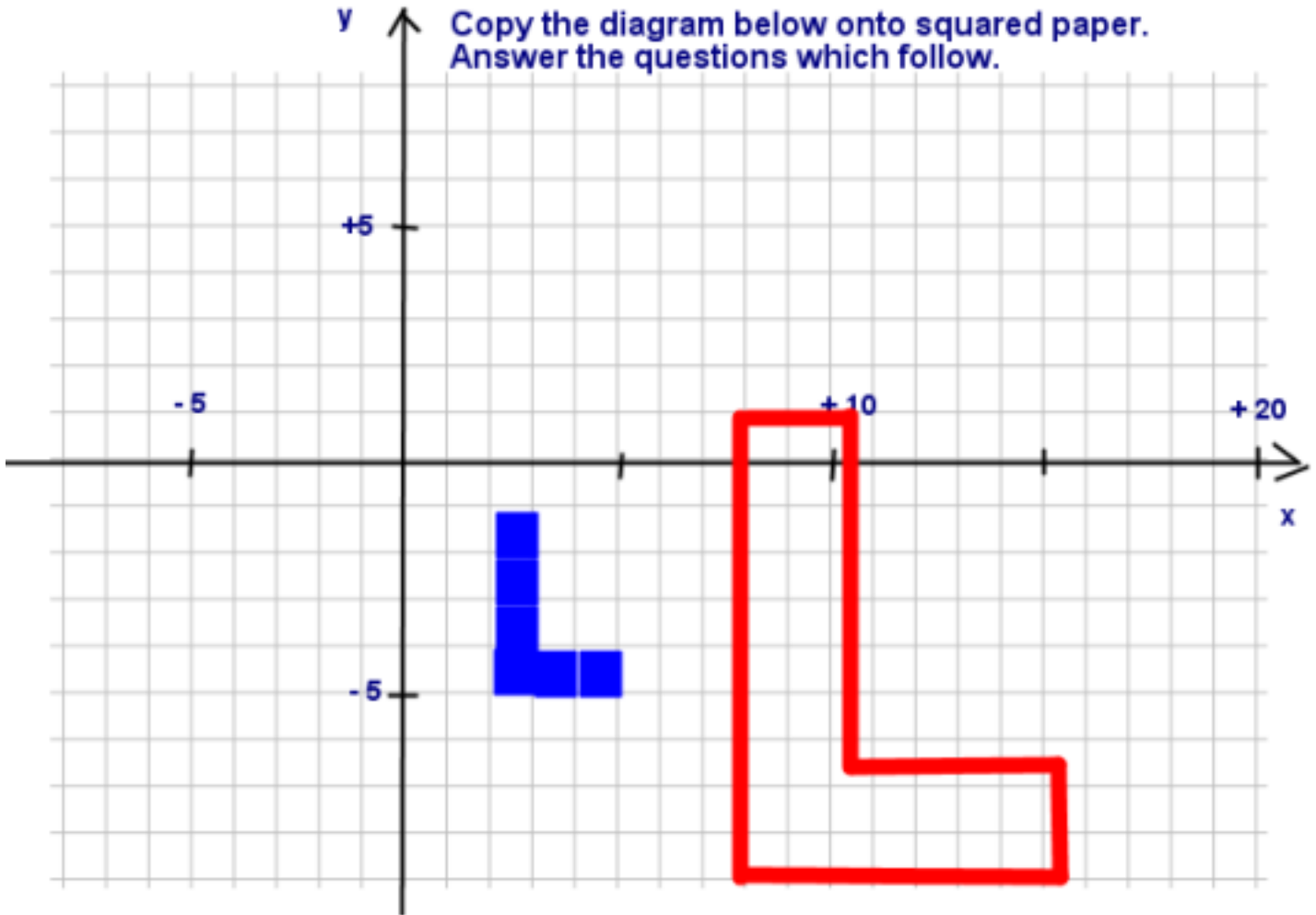
Transformations - Enlargement 2 ANSWER



2) Enlarge the shape given by a scale factor of three about the point (0, -5)

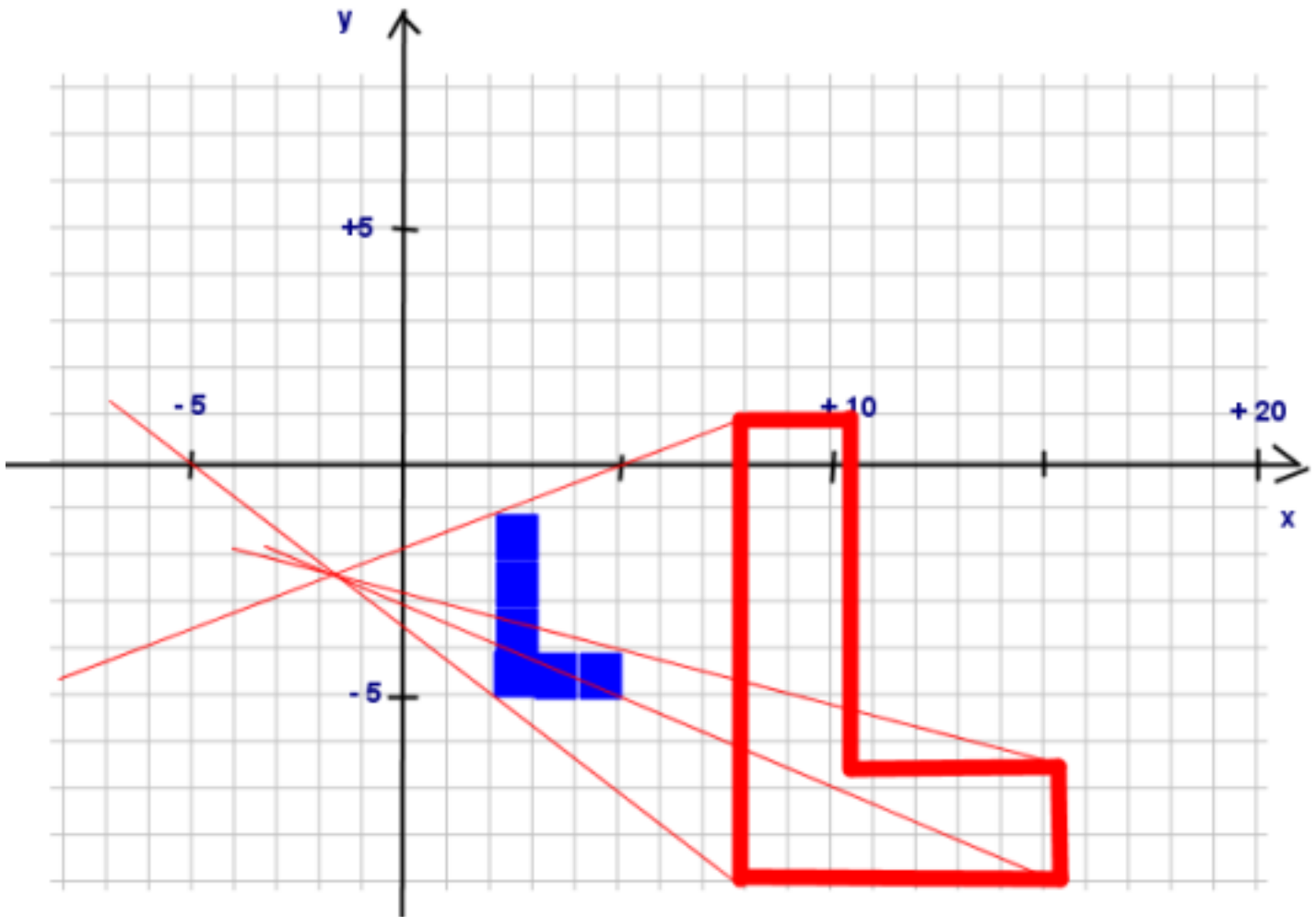
Transformations - Enlargement 3

Copy the diagram below onto squared paper.  
Answer the questions which follow.



- 3) What is the scale factor of this enlargement?  
Where is the centre of enlargement?

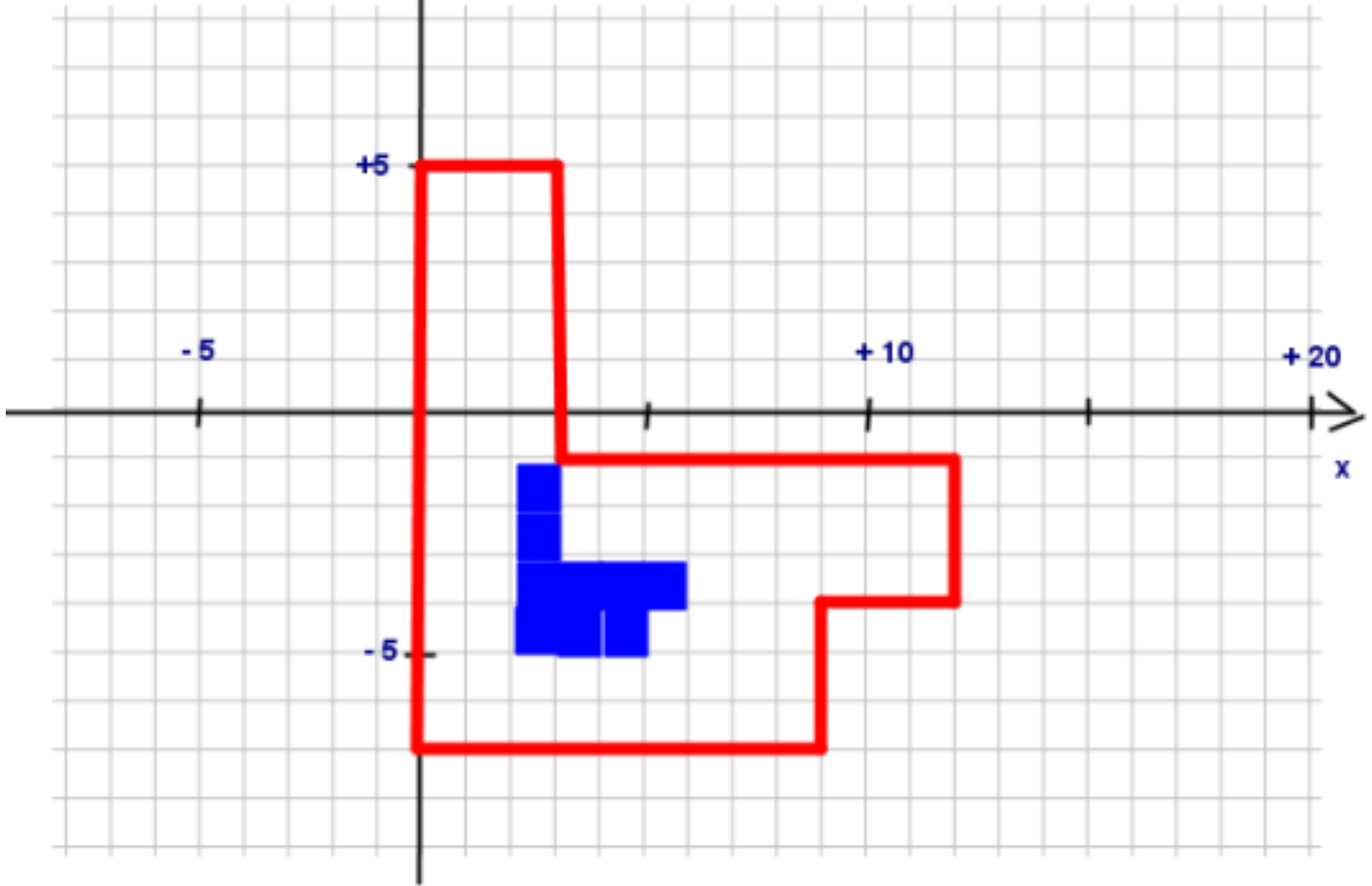
Transformations - Enlargement 3 ANSWERS



- 3) What is the scale factor of this enlargement ? **2.5 times**  
 Where is the centre of enlargement ? **( - 1.5 , -2.5 ) (approx.)**

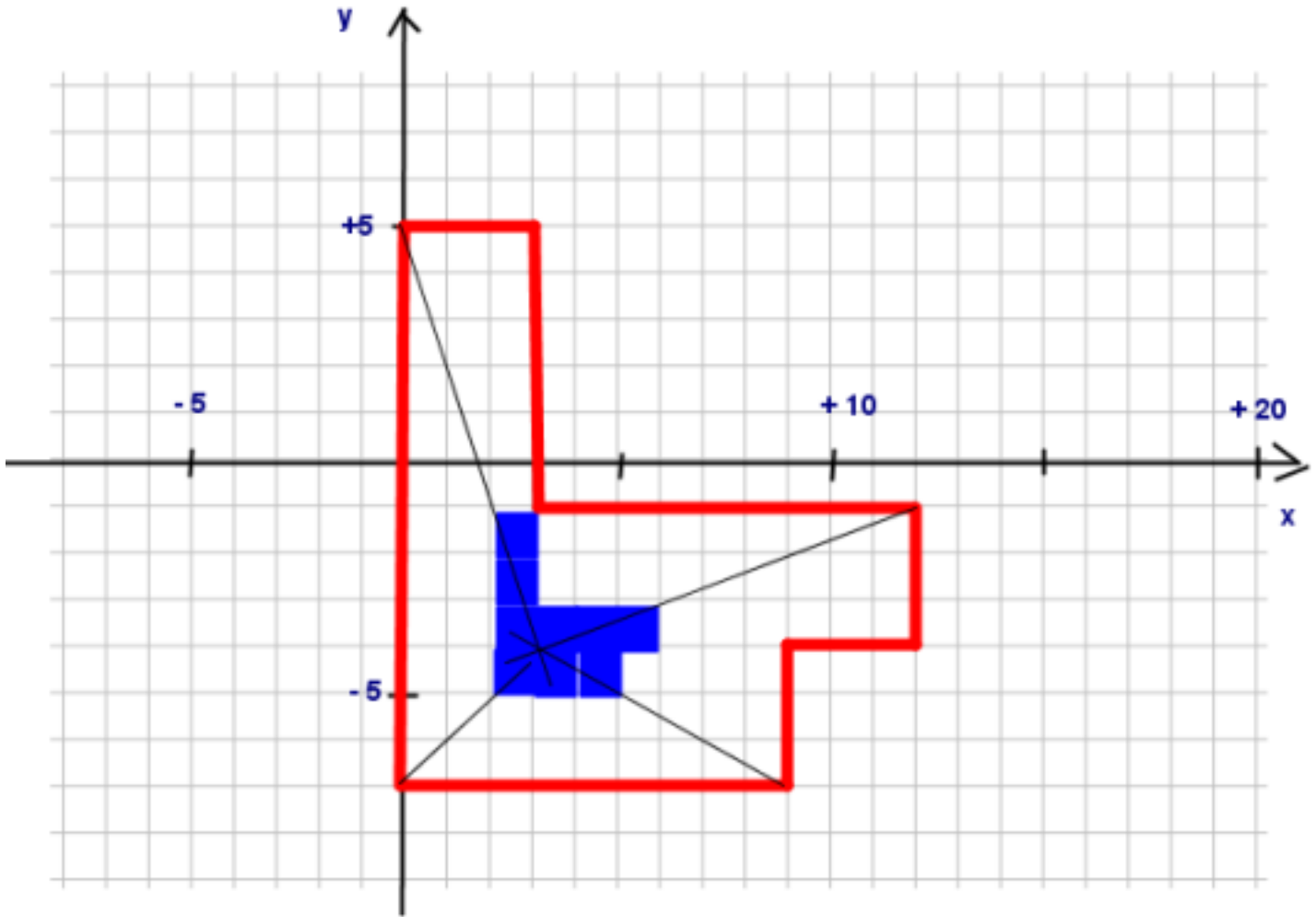
Transformations - Enlargement 4

Copy the diagram below onto squared paper.  
Answer the questions which follow.



- 4) What is the scale factor of this enlargement ?  
Where is the centre of enlargement ?

Transformations - Enlargement 4 ANSWER



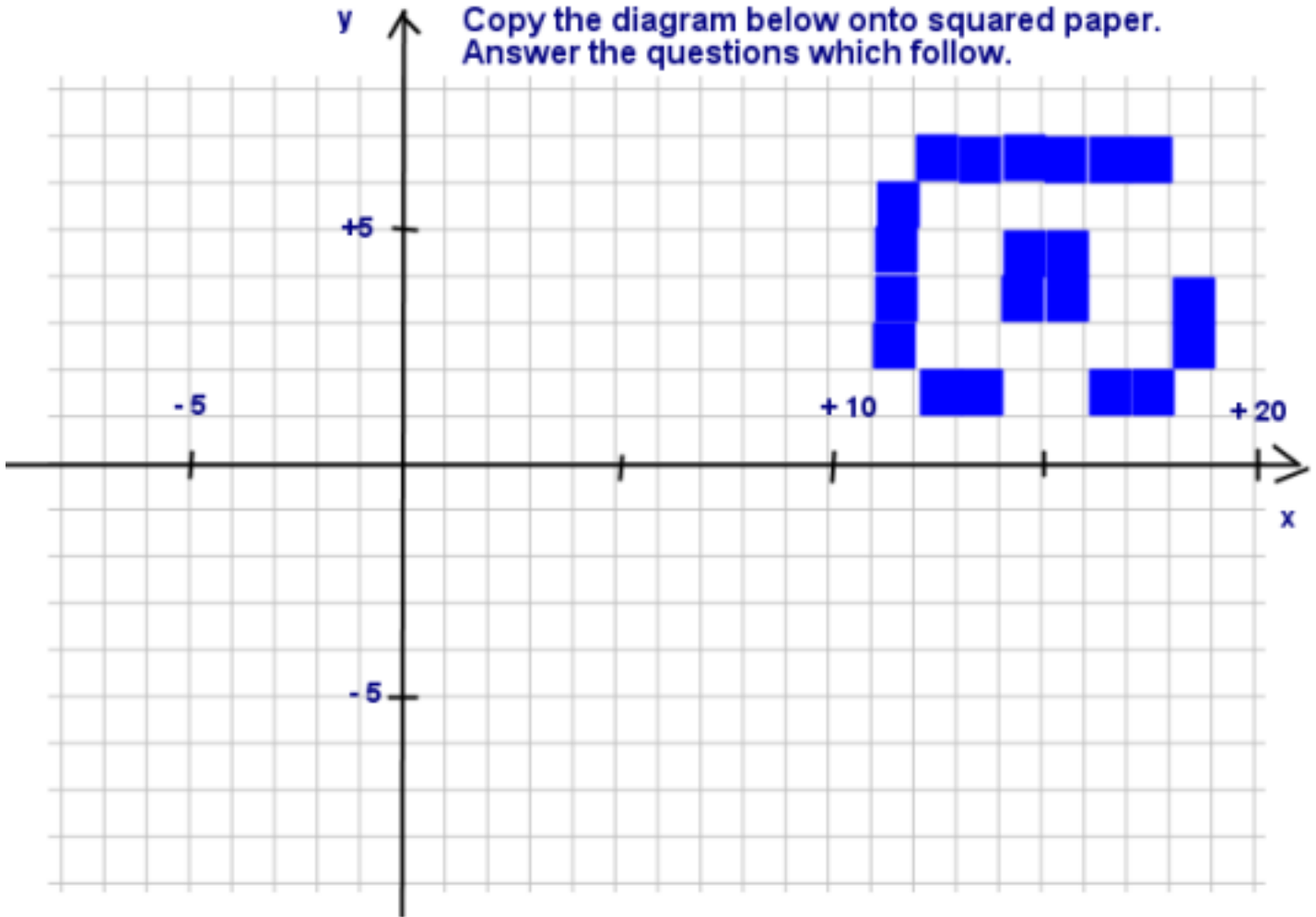
4) What is the scale factor of this enlargement ? **3**

Where is the centre of enlargement ? **( 3 , - 4 )**

*(or 1/3 if the original shape is the red one)*

Transformations - Enlargement 5

Copy the diagram below onto squared paper.  
Answer the questions which follow.

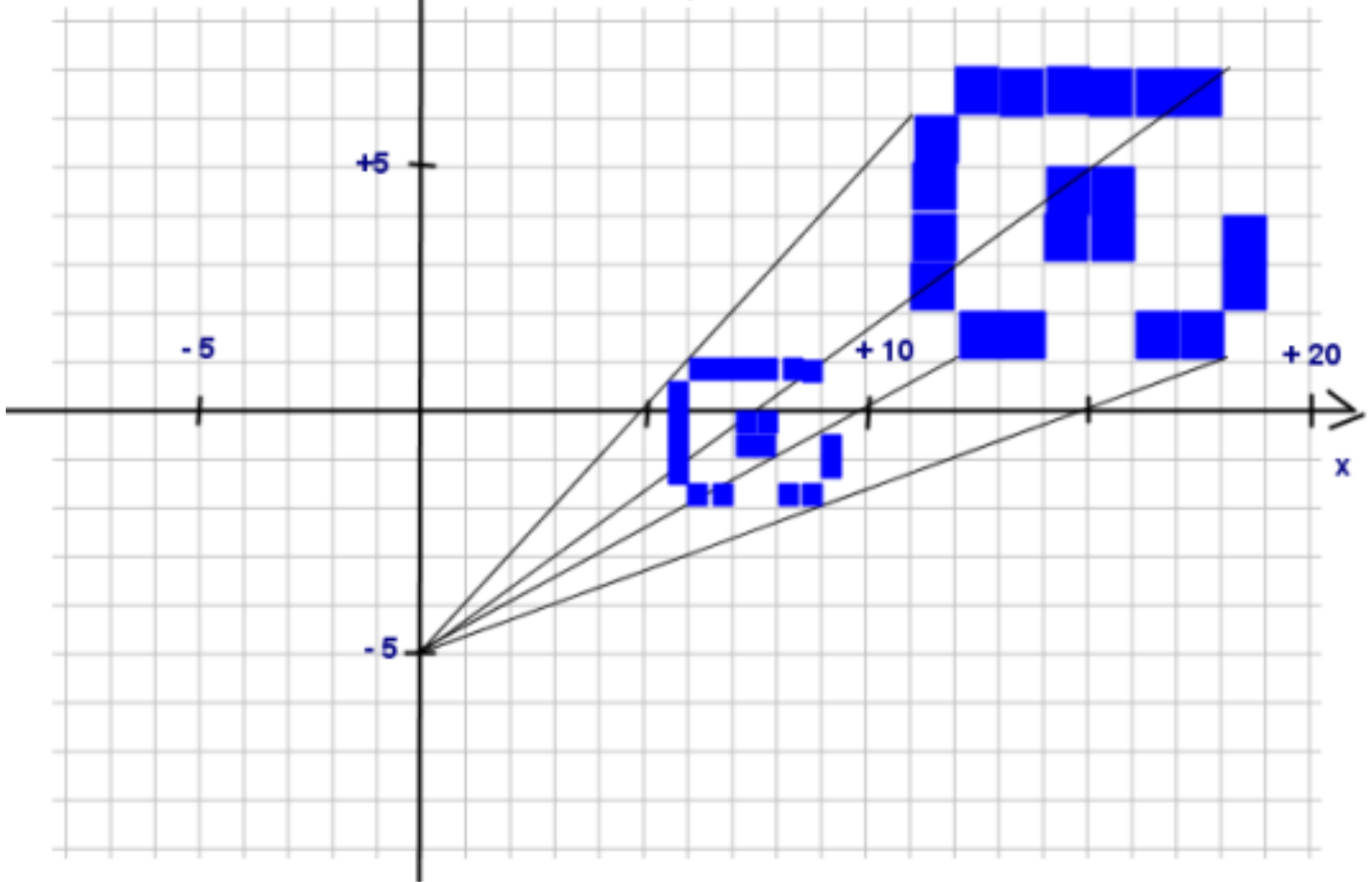


5) Enlarge the shape given by a scale factor of 0.5 , centre ( 0 , - 5 )



Transformations - Enlargement 5 ANSWER

Copy the diagram below onto squared paper.  
Answer the questions which follow.



5) Enlarge the shape given by a scale factor of 0.5 , centre ( 0 , - 5 )