



Warm Up Grade 7
Lesson 2 E learn

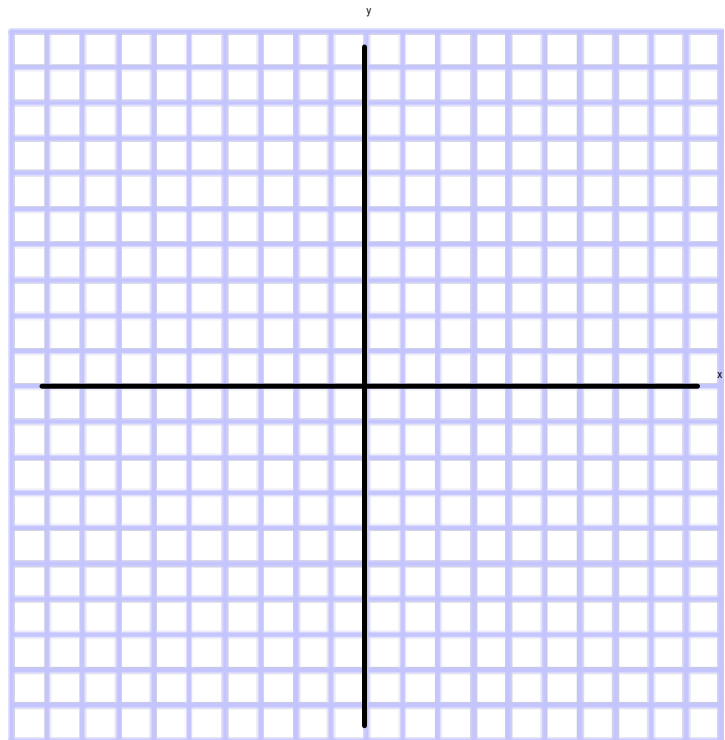


Plot these points on a grid:

$(2,-9)$, $(0,-5)$, $(-4,-7)$, $(-6,-10)$,
 $(-8,-10)$, $(-9,-8)$, $(-7,0)$, $(-5,5)$,
 $(-6,7)$, $(-3,6)$, $(2,3)$, $(4,0)$,
 $(8,-4)$

Join the points in the order listed.

What animal's head did you draw?





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Solution to warm up

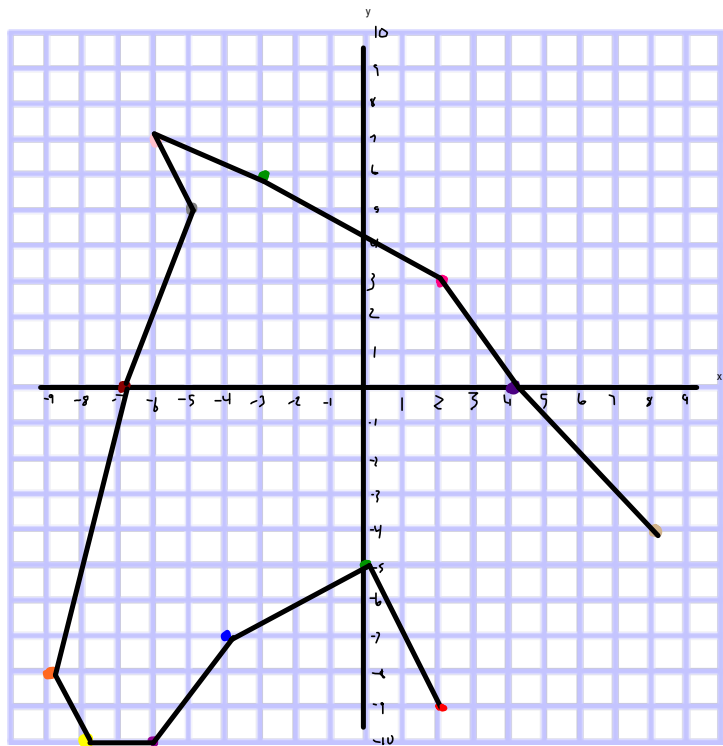
Plot these points on a grid:

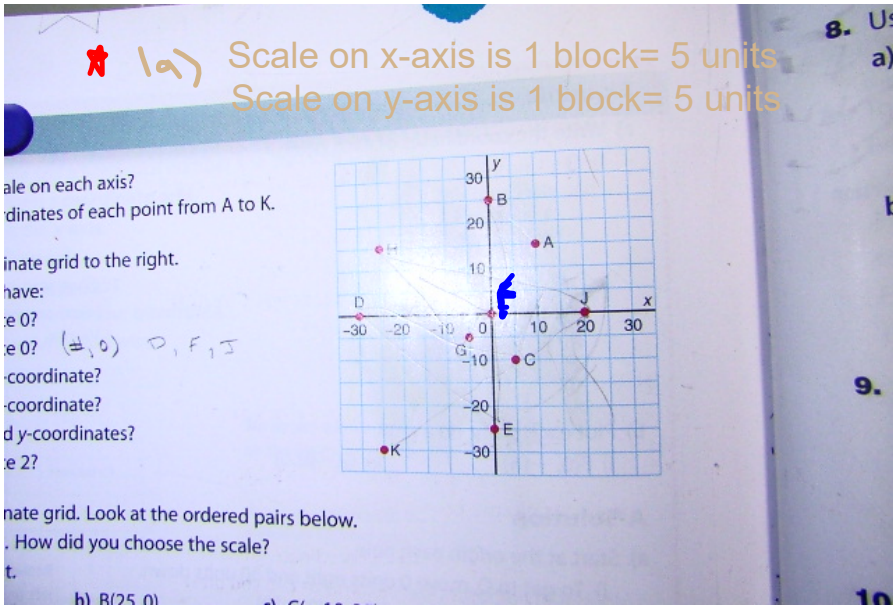
$(2, -9)$, $(0, -5)$, $(-4, -7)$, $(-6, -10)$,
 $(-8, -10)$, $(-9, -8)$, $(-7, 0)$, $(-5, 5)$,
 $(-6, 7)$, $(-3, 6)$, $(2, 3)$, $(4, 0)$,
 $(8, -4)$

Join the points in the order listed.

What animal's head did you draw?

horse





2a) $x = 0$
 $(0, \#)$
B E F

b) $y = 0$
 $(\#, 0)$
D F J

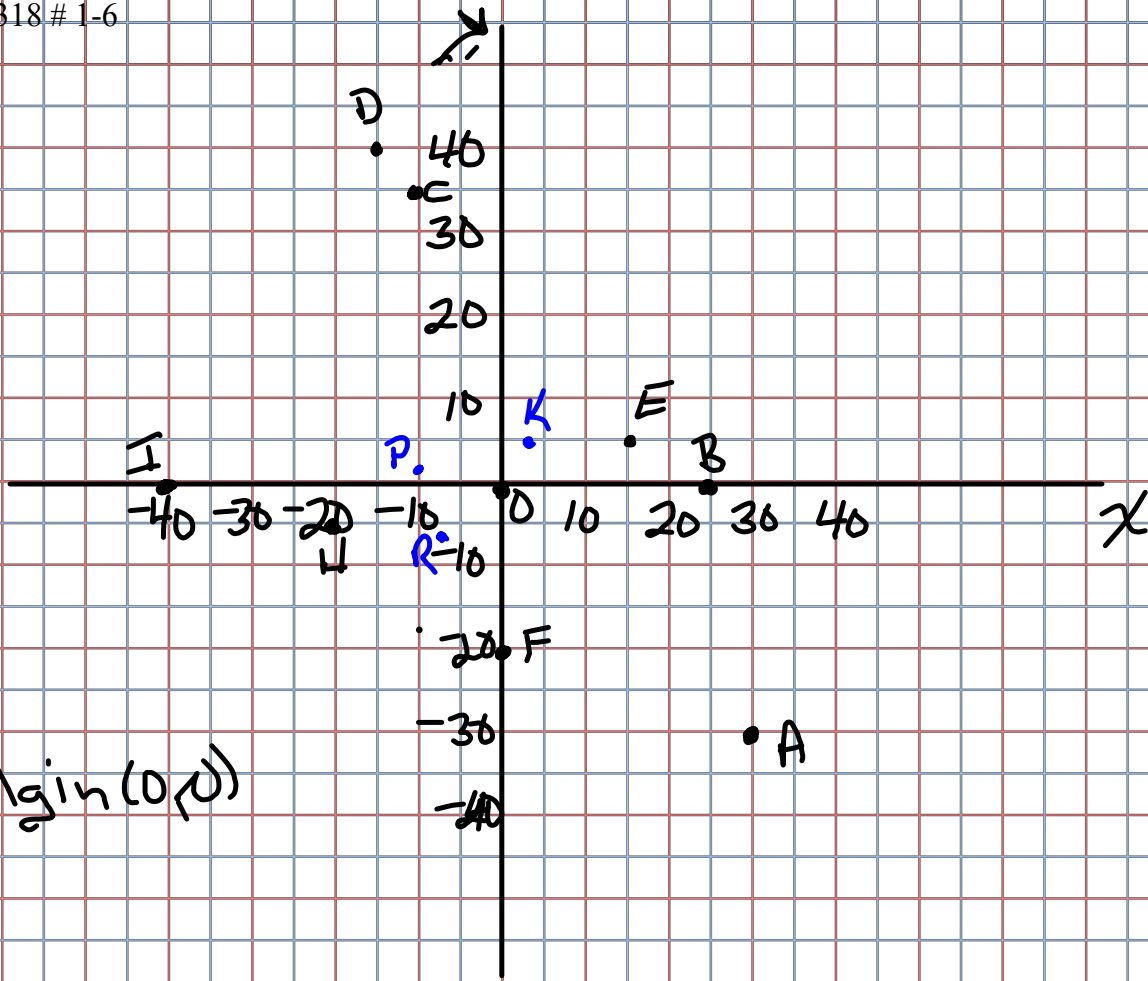
c) (B, FE) $(0, \#)$
 H, K $(-25, \#)$

d) Same y
H, A
D, F, J,

e) $F(0, 0)$
Some
f) $(\#, 2)$
No

pg. 318 # 1-6

3.



origin (0,0)

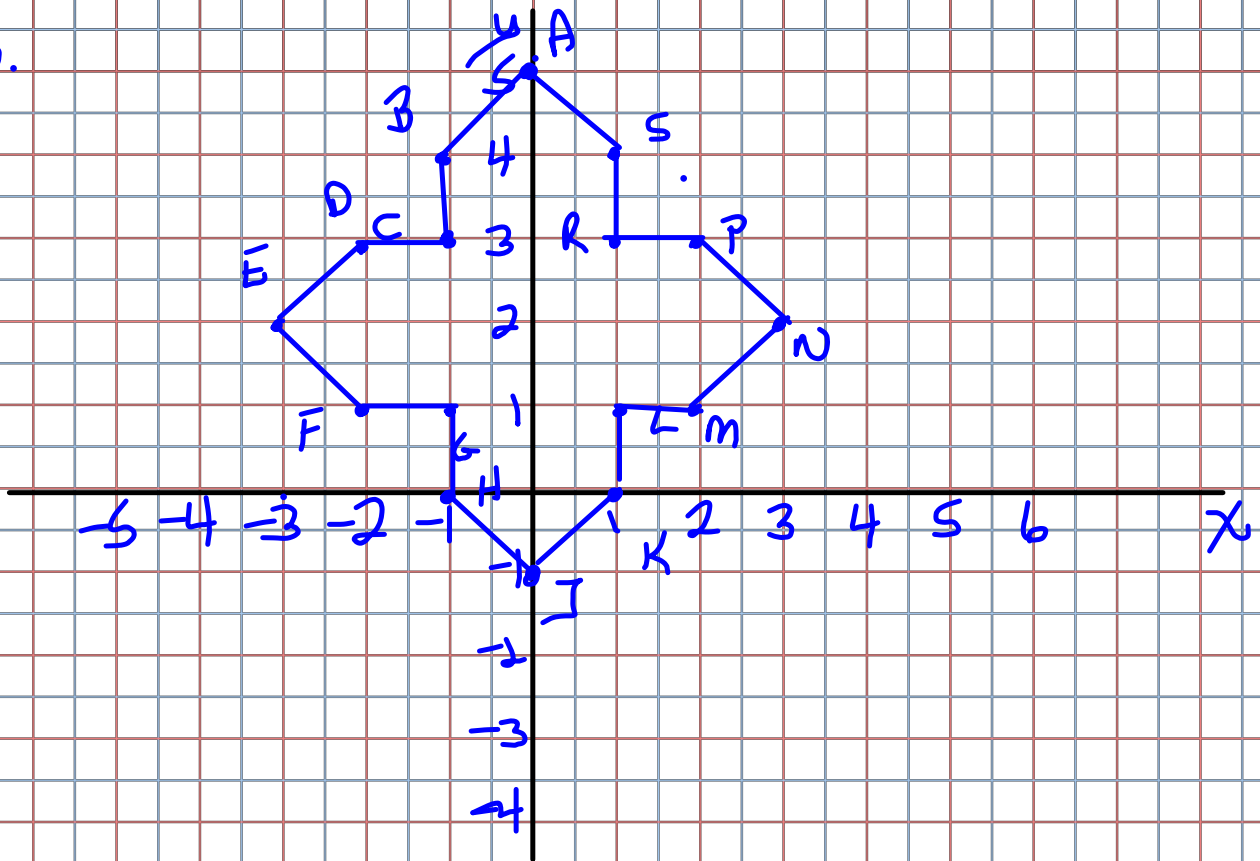
5. Quadrant 1
 x and y are positive

Quadrant 2
 x is negative, y is positive

Quadrant 3
 x and y are negative

Quadrant 4
 x is positive, y is negative.

b.



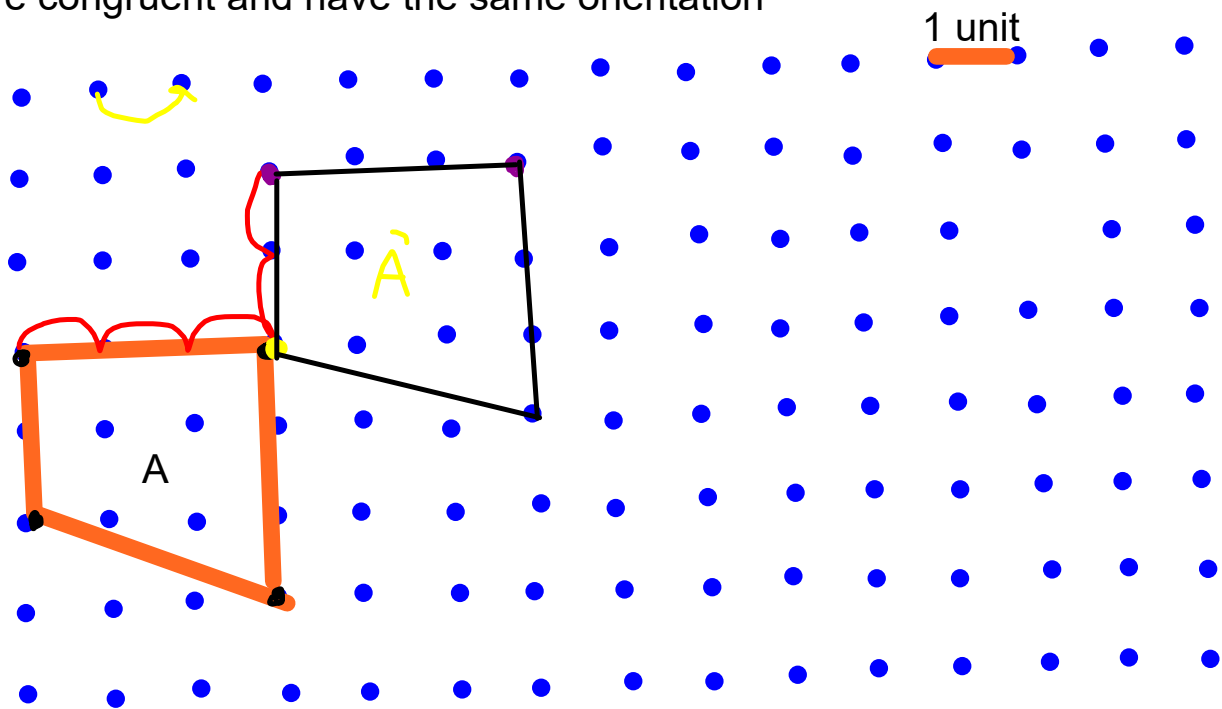
Translation- is a slide of a shape in a straight line

- arrow is used to show the movement

- Move each Vertex

-(Directions are given by R-right, L- Left, U- up or D - down)

- the translated image and the shaded original shape are congruent and have the same orientation



Let's translate shape A R3 U2 to give translated image A'

translation arrow - is a straight line that shows the direction

Translations

Another term for a translation is a slide. So you take the shape and move it to another position, according to the rule.

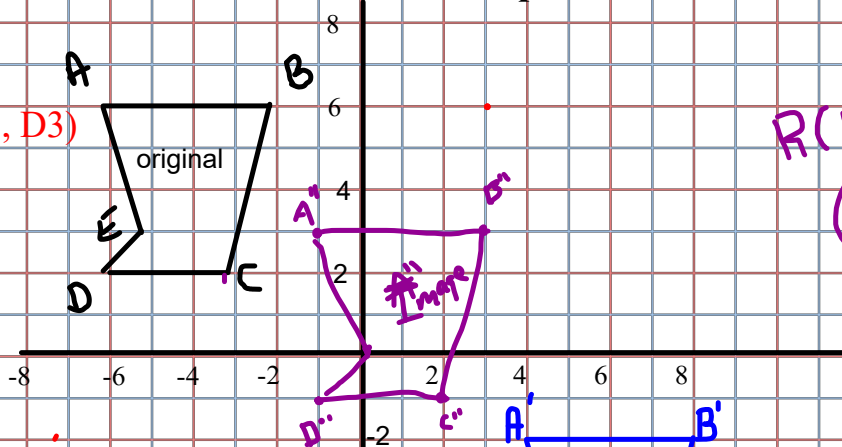
The translation will be written as the horizontal move, then the vertical move, such as (R3,D1). (R3,D1) means right 3 and down 1.

R stands for right
D stands for down

L stands for left
U stands for up

#1

Translate (R5, D3)



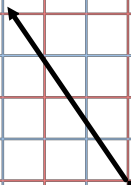
R(14)D 8
(R10 D8)

#2

What is the translation rule for the blue diagram?
-always compare to original

(R10, D8)

The transformation rule may also be given as an arrow.



This arrow is the same as using the rule (L3,U4)

complete sheets

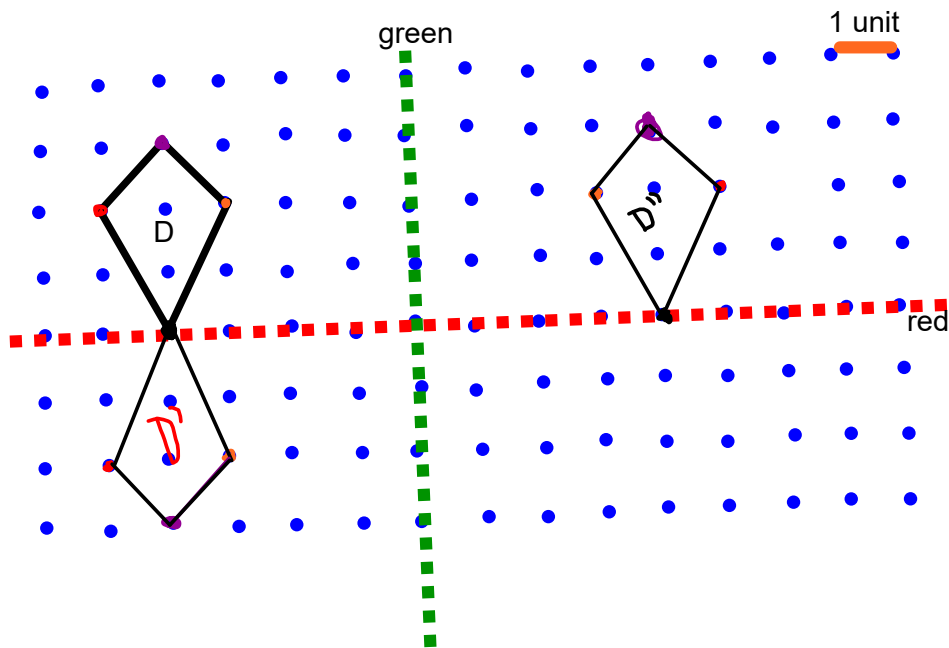
Reflection- Count how far dots(vertices) are from line of reflection (mirror) and make the new shape

find horizontal line of reflection (marked with red)

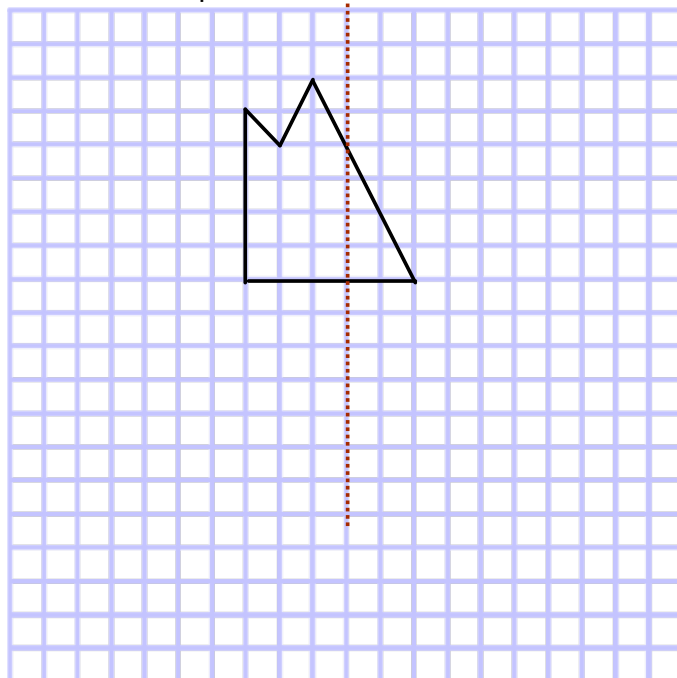
a) *Reflect Shape D across the red line. Name reflection image Shape B

- Find vertical line of reflection (marked with green)

b) Reflect shape D across the green line of reflection. Name reflected image is Shape C



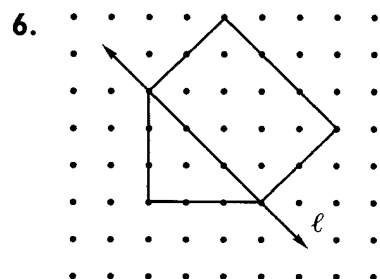
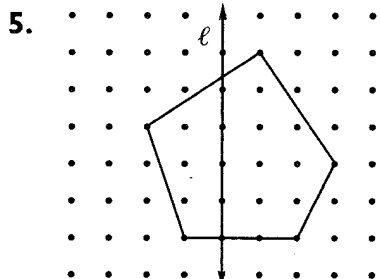
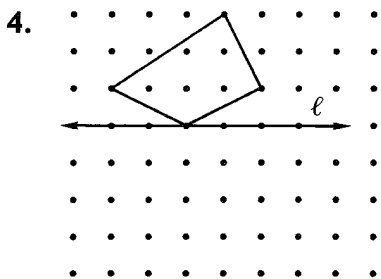
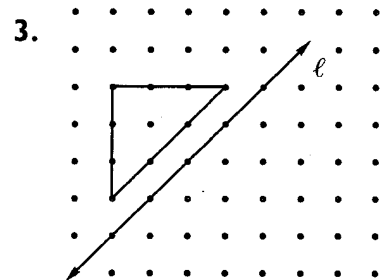
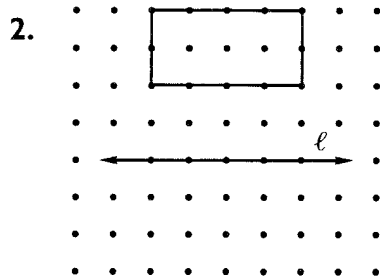
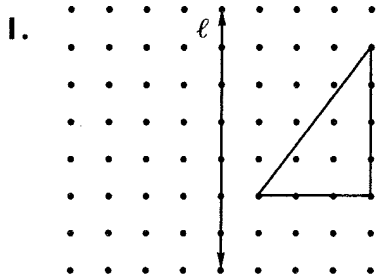
2) Reflect the shape across the dotted line



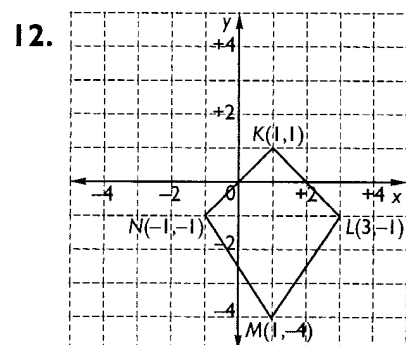
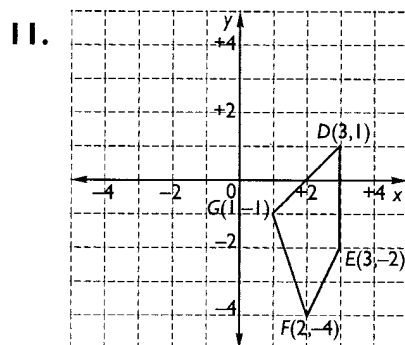
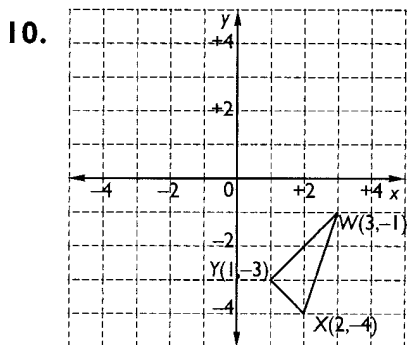
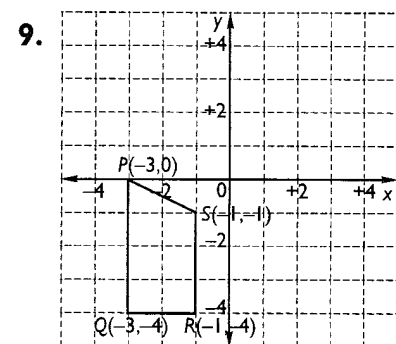
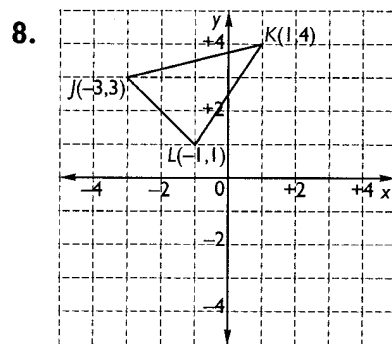
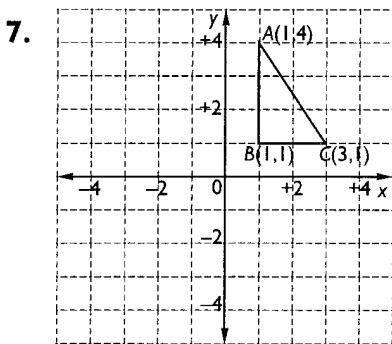
Creating and Describing Reflections

5.1 Creating Designs Using Reflections

Copy each diagram onto dot paper and draw the reflection image. Describe your thinking.



Copy each figure onto grid paper. Draw one image after the figure has been reflected in the x -axis. Draw another image after the figure has been reflected in the y -axis. Label the vertices of each image.

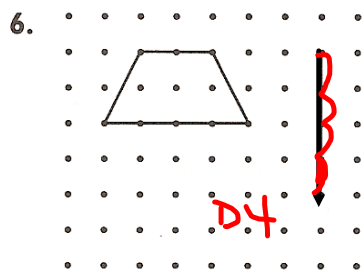
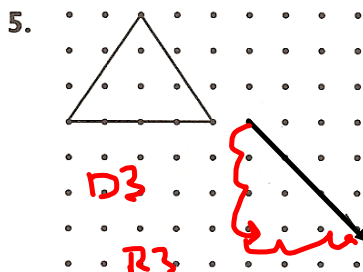
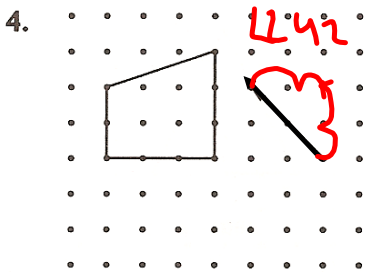
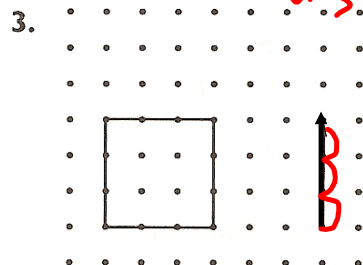
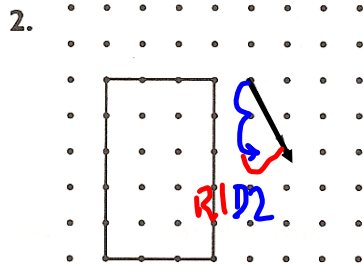
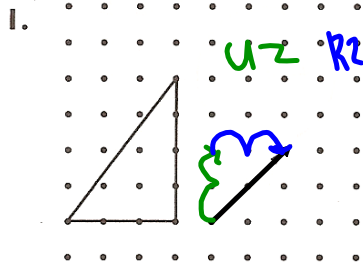


Creating and Describing Translations

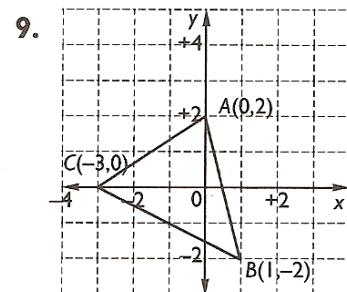
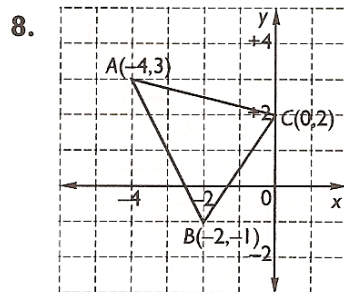
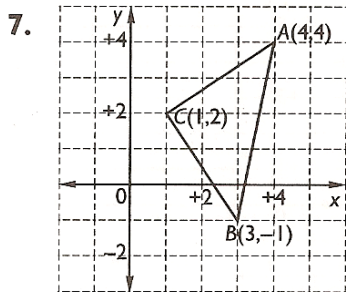
5.4 Creating Designs Using Translations

translation arrow tells you the direction

Copy each diagram onto dot paper and draw the translation image.

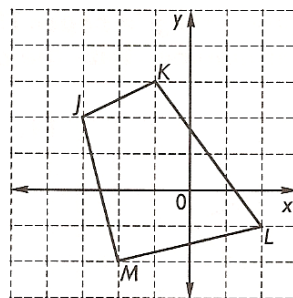


State the coordinates of A, B, and C after the translation (L2, D3).



10. Translate the figure shown and find the coordinates of the vertex for each translation.

- a) (R1, U2)
- b) (L1, U1)
- c) (L2, D2)



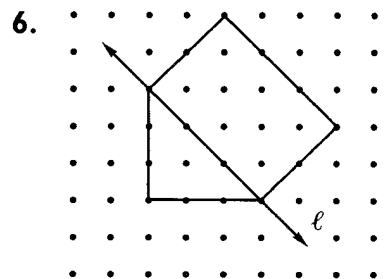
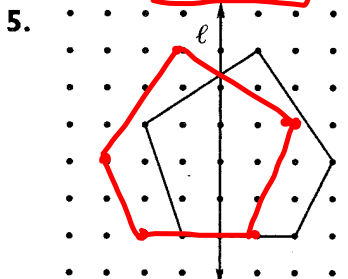
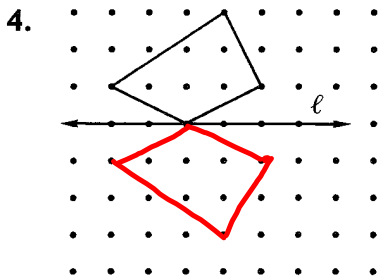
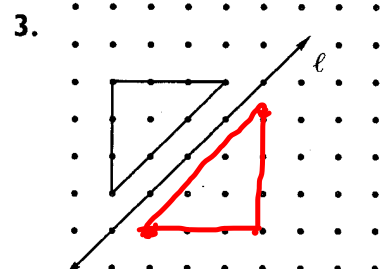
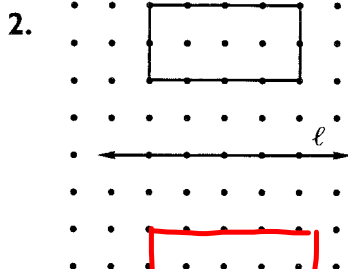
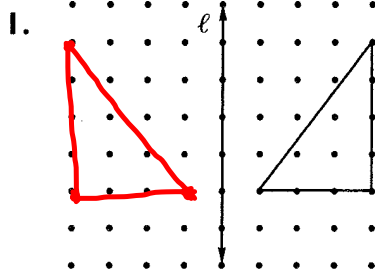
11. The origin (0, 0) and point A are opposite vertices of a rectangle whose area is 16 square units. Move point A to other locations so that the area remains the same. How many such locations did you find?

Creating and Describing Reflections

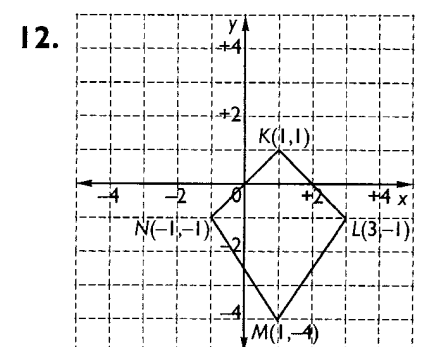
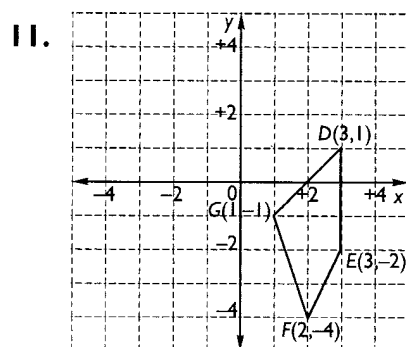
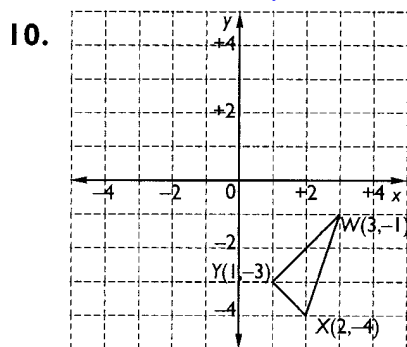
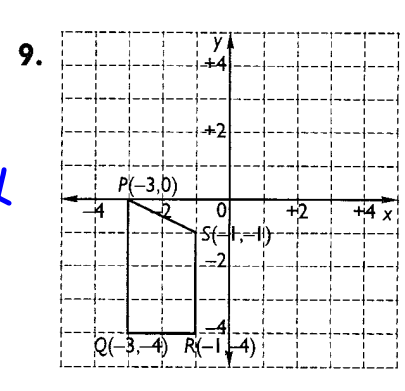
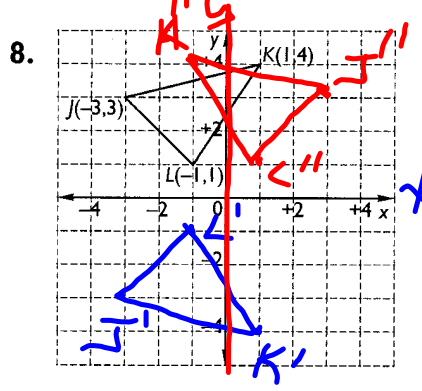
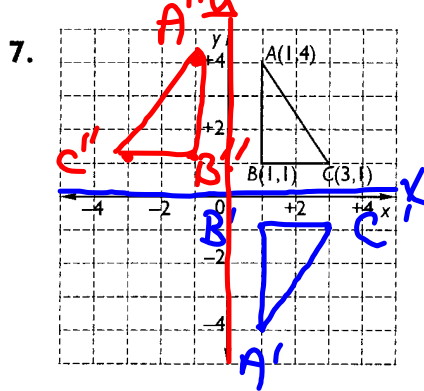
5.1 Creating Designs Using Reflections

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Describe your thinking.



Copy each figure onto grid paper. Draw one image after the figure has been reflected in the x-axis. Draw another image after the figure has been reflected in the y-axis. Label the vertices of each image.



Creating and Describing Translations

5.4 Creating Designs Using Translations

Copy each diagram onto dot paper and draw the translation image.

1.

2.

3.

4.

5.

6.

State the coordinates of A, B, and C after the translation (L2, D3).

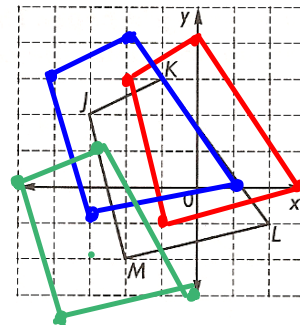
7.

8.

9.

10. Translate the figure shown and find the coordinates of the vertex for each translation.

- a) (R1, U2)
- b) (L1, U1)
- c) (L2, D2)



11. The origin (0,0) and point A are opposite vertices of a rectangle whose area is 16 square units. Move point A to other locations so that the area remains the same. How many such locations did you find?