Curriculum Outcomes

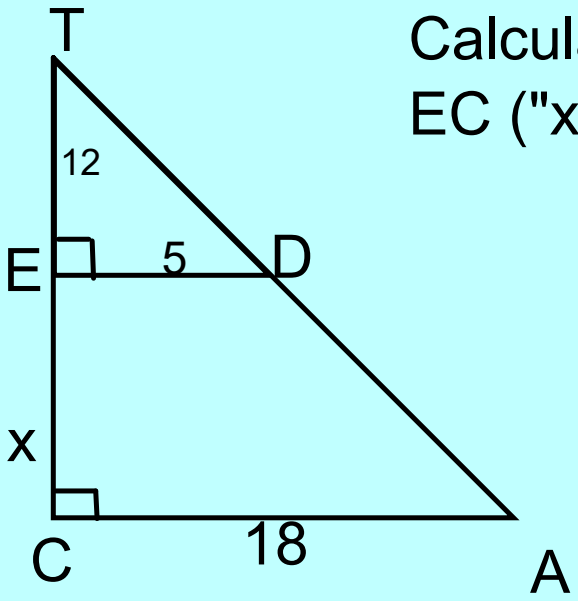
(SS3) Demonstrate an understanding of similarity of polygons.

(SS4) Draw and interpret scale diagrams of 2-D shapes.

(SS5) Demonstrate an understanding of line and rotation symmetry.

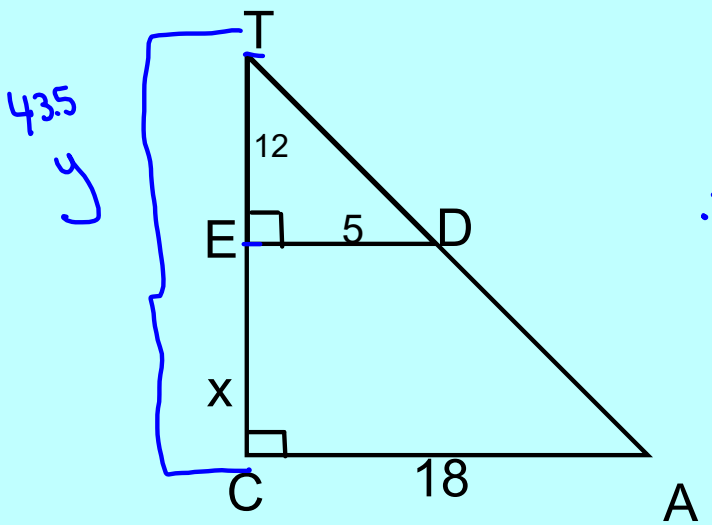
Student Friendly: Reflecting a shape across a line

Warm Up



Calculate the length of EC ("x")

Warm Up

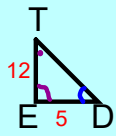


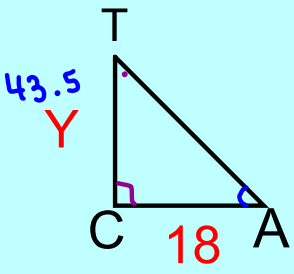
<T=<T (Share)

<E =<C (90°)

<D= <A (Angle sum of triangle

∴ ΔTED ~ ΔTCA (AAA)





Method 1:

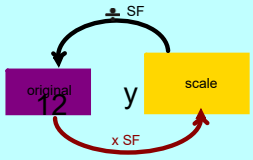
$$\frac{y}{12} = \frac{18}{5}$$

$$y = \frac{(18)(12)}{5}$$

$$y = 43.5$$

Method 2:

$$SF = \frac{18}{5} = 3.6$$



Orig ----> Scale

y = 12 x 3.6

y= 43.5

X= Y - 12

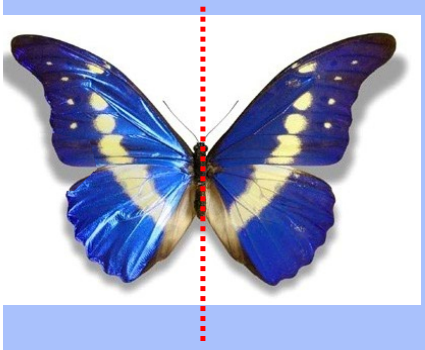
X= 43.5 - 12

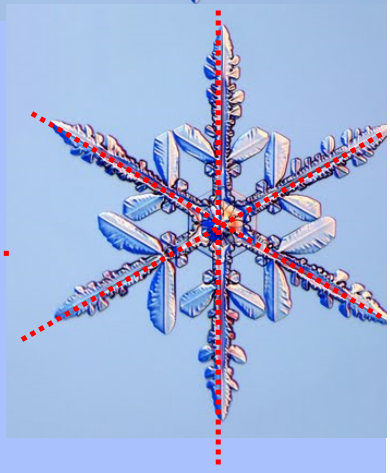
X= 31.5

SECTION 7.5

REFLECTIONS AND LINE SYMMETRY

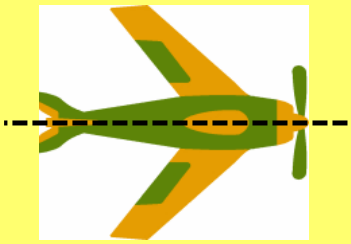
A figure has **symmetry** when it can be folded so two halves match, or are identical.





Shapes may show symmetry when folded:

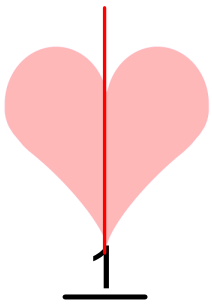
vertically



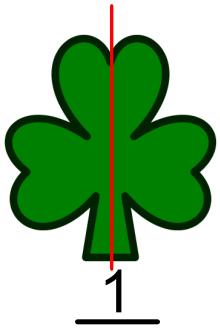
horizontally

diagonally

How many lines of symmetry are in the following figures?


1

5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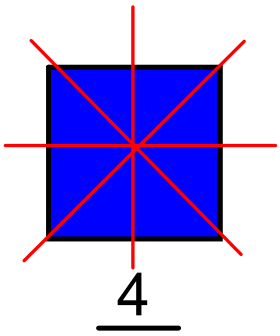
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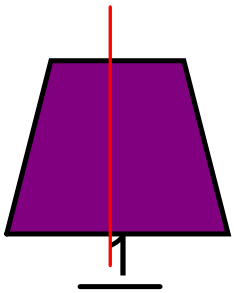
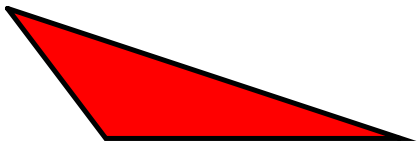
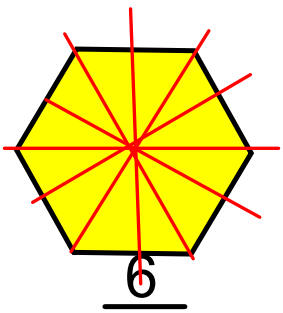

1

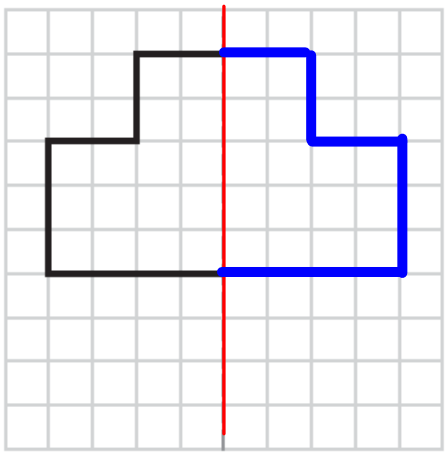

0

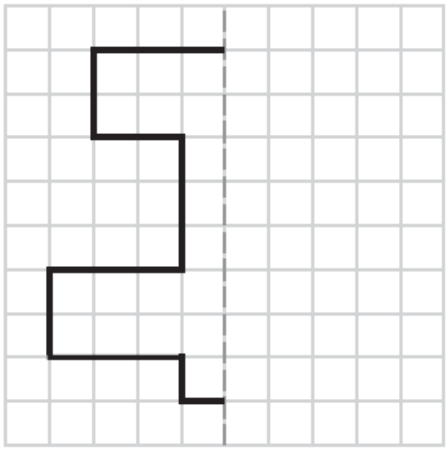

6

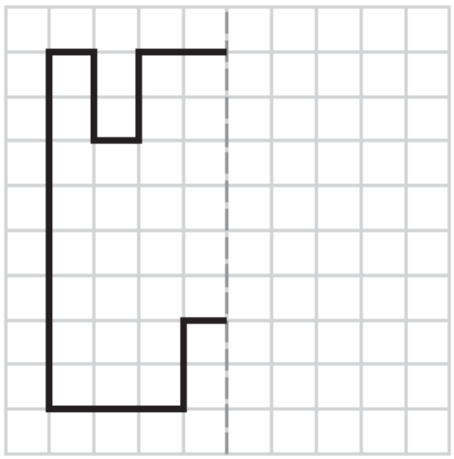
Creating Symmetry

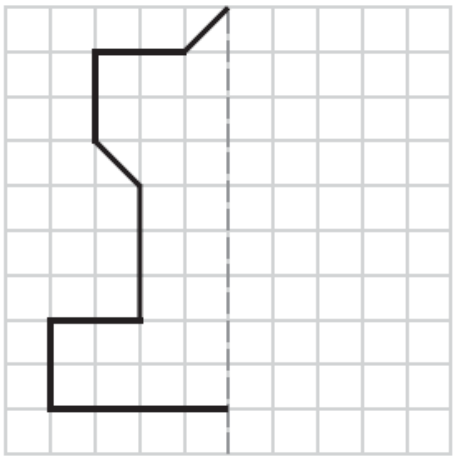
Name: _____ Class: _____

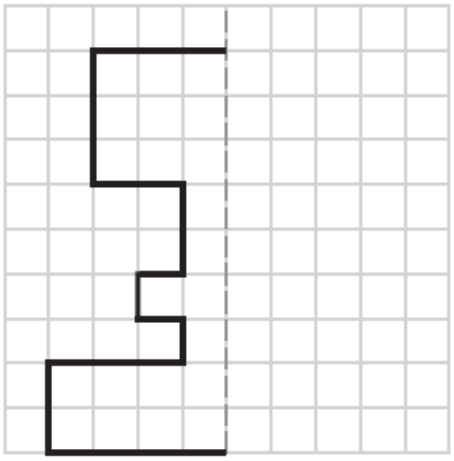
Each figure is half of a symmetric shape. Complete each figure by using the dotted line as the line of symmetry.

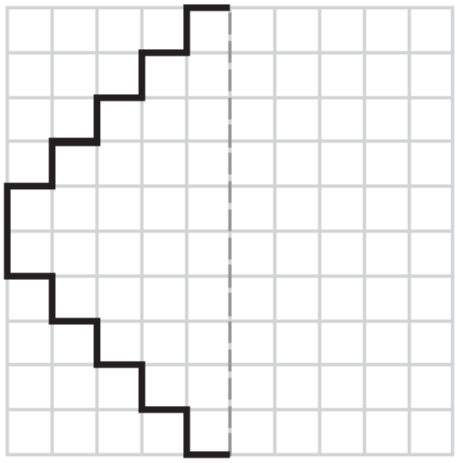


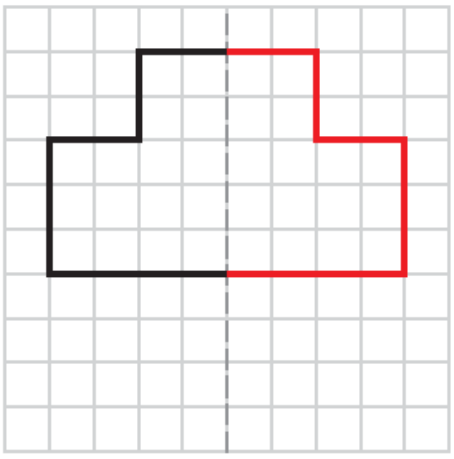


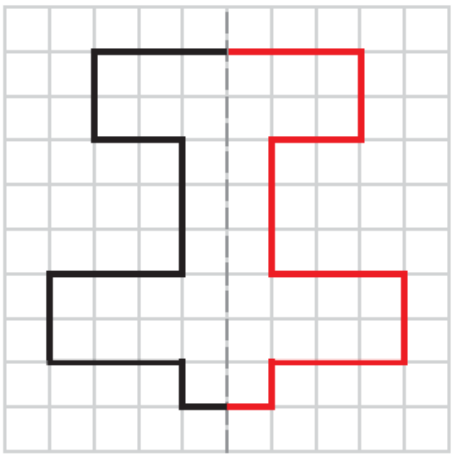


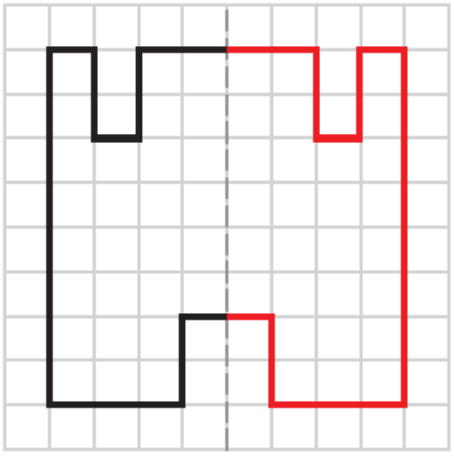


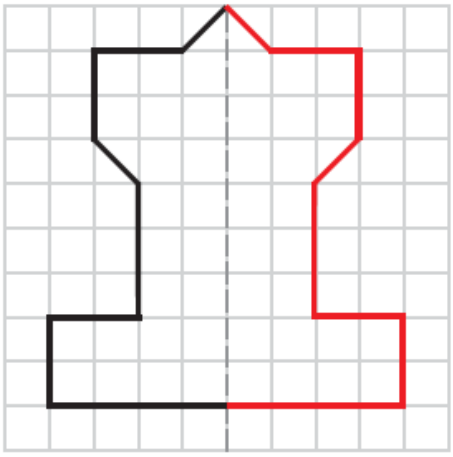


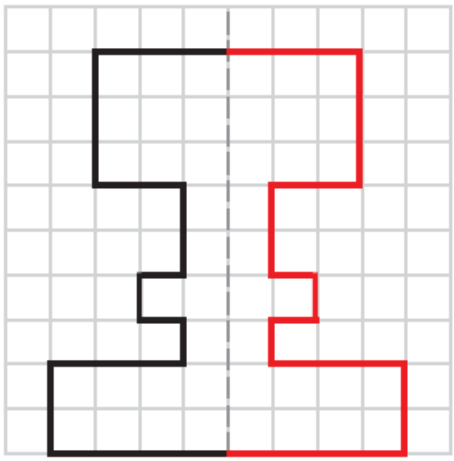


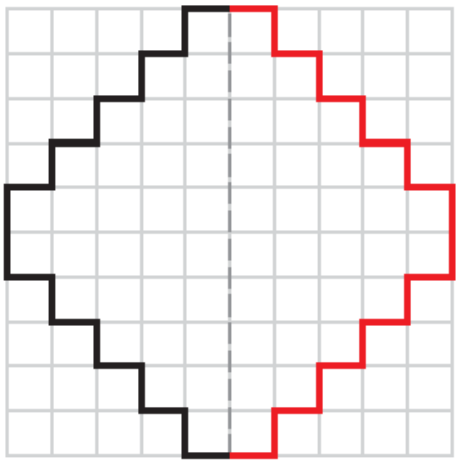




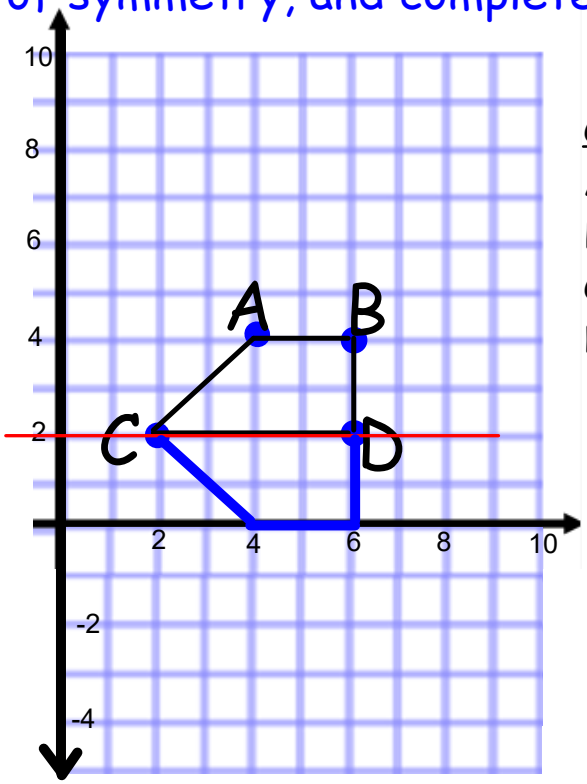








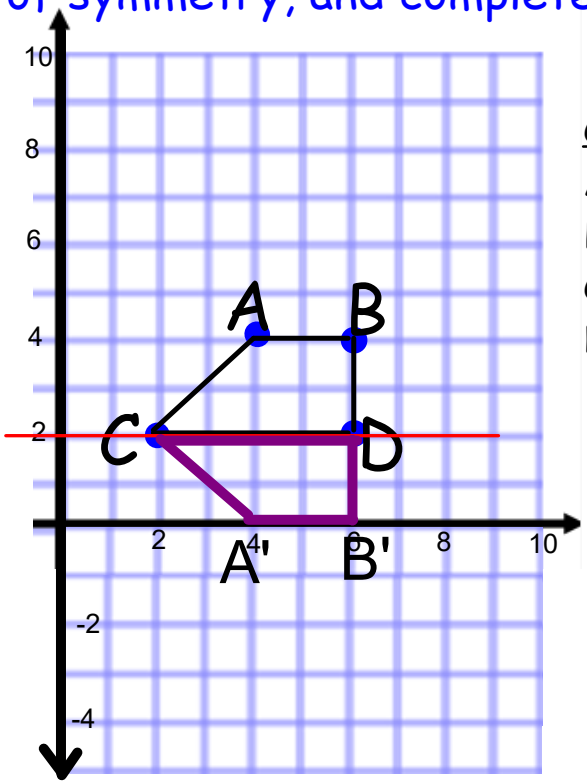
Copy the shape on graph paper. Use the red line as a line of symmetry, and complete the other half.



Coordinates:

A (4, 4)
B (6, 4)
C (2, 2)
D (6, 2)

Copy the shape on graph paper. Use the red line as a line of symmetry, and complete the other half.



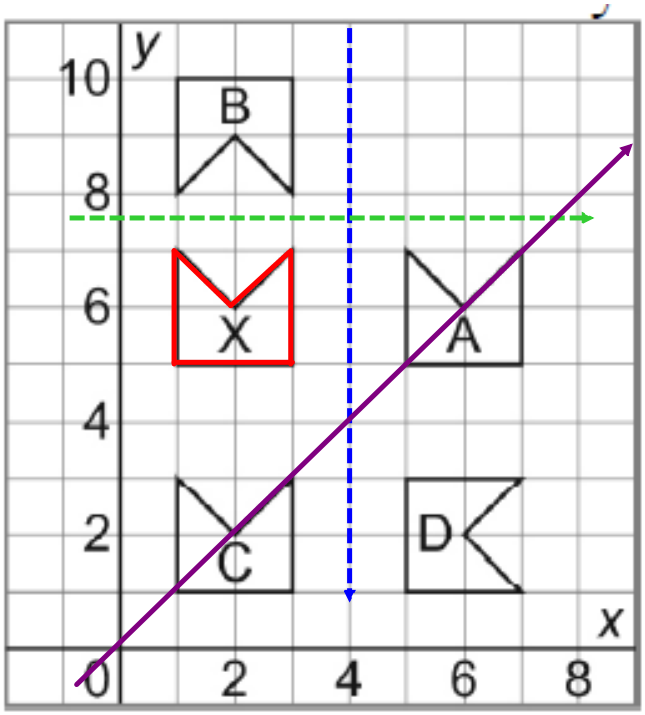
Coordinates:

A (4, 4)
B (6, 4)
C (2, 2)
D (6, 2)

Reflected Coordinates:

A' (4, 0)
B' (6, 0)
C' (2, 2)
D' (6, 2)

Identify the shapes that are related to the shape X by a line of **reflection**. Describe the symmetry in each case.



A: reflected in vertical line passing through 4 on the x-axis $x = 4$

B: reflected in horizontal line passing through 7.5 on the y-axis $y = 7.5$

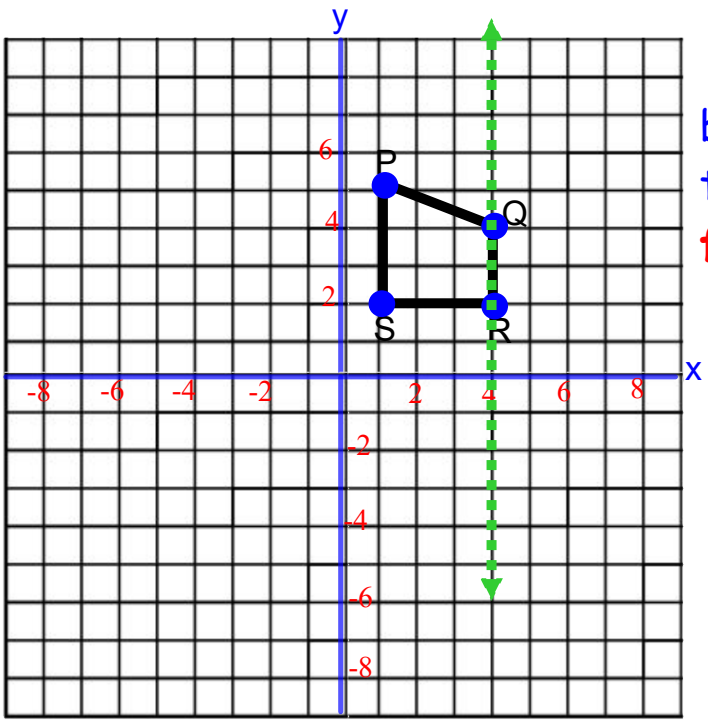
C: not related to X by line symmetry

D: reflected in oblique line passing through (0, 0) and (8, 8)

Oblique just means a slanted line

Quadrilateral PQRS is part of a larger shape.

a) Draw a reflection in the vertical line through 4 on the x-axis.

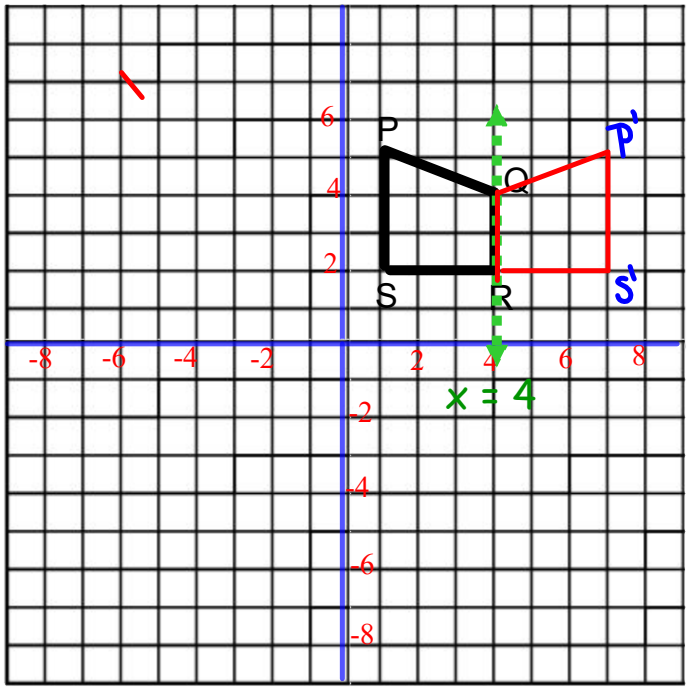


b) Write the coordinates of the **original shapes** and the **formed shape**.

Go to next page to see answers . . . .

Quadrilateral PQRS is part of a larger shape.

a) Draw a reflection in the vertical line through 4 on the x-axis.



b) Write the coordinates of the **original shapes** and the **formed shape**.

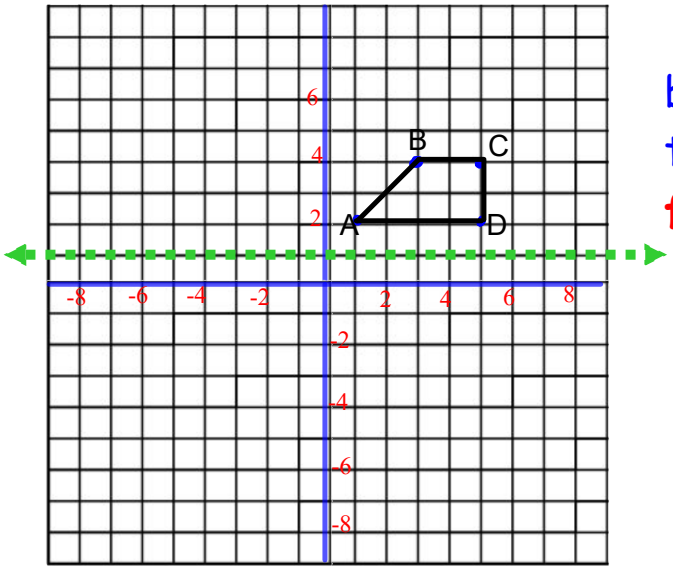
P(1, 5) ⟷ P'(7, 5)

Q(4, 4) ⟷ Q (4,4)

S(1,2) ⟷ S'(7, 2)

R (4, 2) ⟷ R(4,2)

Draw a reflection in the horizontal line through 1 on the y-axis.

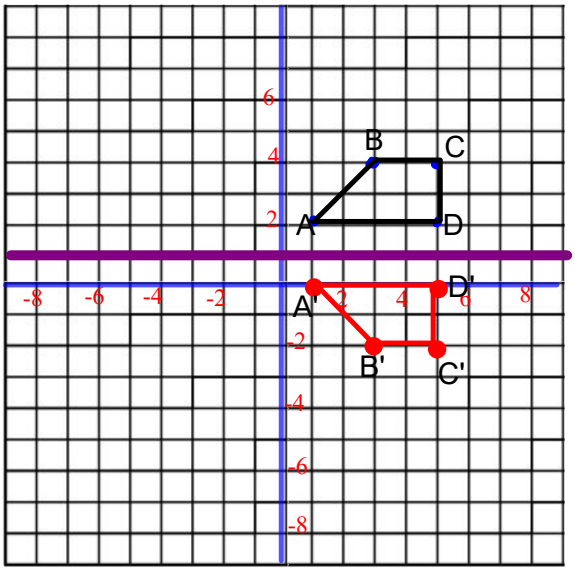


b) Write the coordinates of the **original shapes** and the **formed shape**.

A(_, _) B(_, _) C(_,_) D(_, _)

A'(_, _) B'(_, _) C'(_,_) D'(_, _)

Draw a reflection in the horizontal line through 1 on the y-axis.

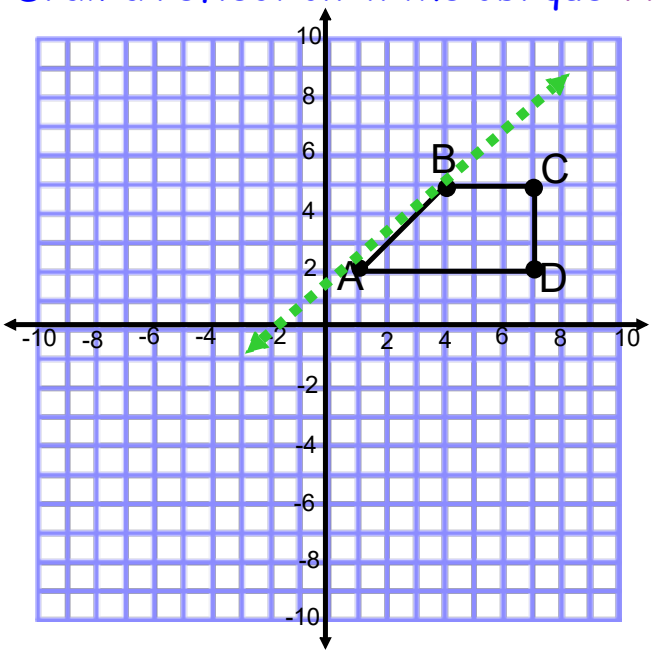


b) Write the coordinates of the **original shapes** and the **formed shape**.

A(1, 2) B(3, 4) C(5,4) D(5,2)

A'(1,0) B'(3,-2) C'(5,-2) D(5,0)

Draw a reflection in the oblique line through (1,2) & (4,4)

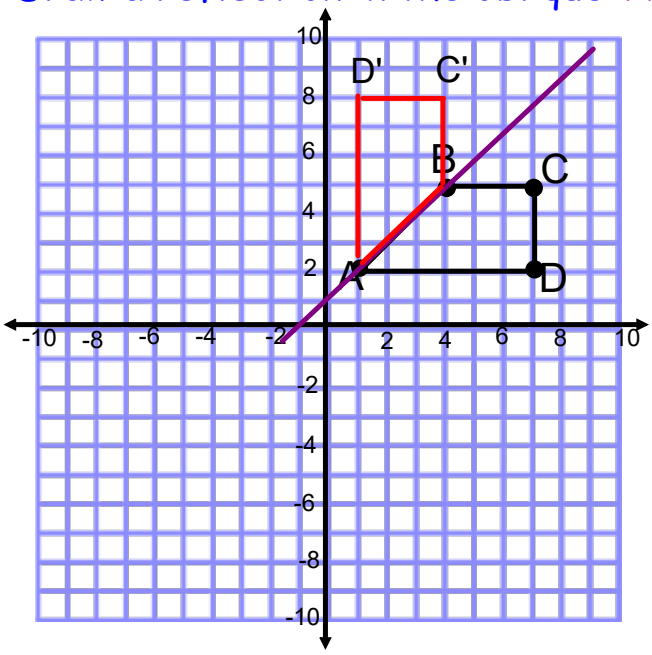


b) Write the coordinates of the **original shapes** and the formed shape.

A(_, _) B(_, _) C(_,_) D(_, _)

A'(_, _) B'(_, _) C'(_,_) D'(_, _)

Draw a reflection in the oblique line through (1,2) & (4,4)

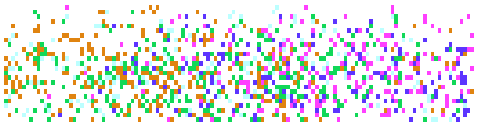


b) Write the coordinates of the **original shapes** and the formed shape.

A(1, 2) B(4, 5) C(7,5) D(7, 2)

A'(1, 2) B'(4, 5) C'(4,8) D'(1, 8)

Class/Homework



-click on the "Homework" link on my teachers page for optional review questions

- If you have any questions you can contact me on the

Remind app

or

through email:

melanie.burns@nbed.nb.ca