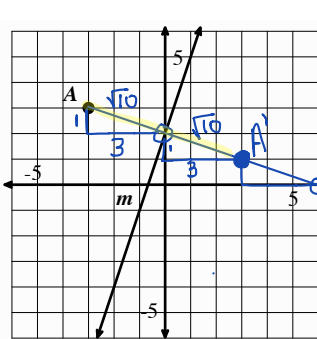*SET*

Topic: Reflecting and rotating points.

On each of the coordinate grids there is a labeled point and line. Use the line as a line of reflection to reflect the given point and create its reflected image over the line of reflection. (Hint: points reflect along paths perpendicular to the line of reflection. Use perpendicular slope!)

3.

(handwritten:) 1) Slope of line of reflection

$\frac{rise}{run} = \frac{3}{1} = 3$

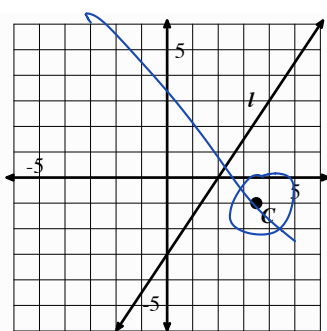2) Find opposite reciprocal slope $-\frac{1}{3}$ and draw from given point

Reflect point **A** over line **m** and label the image **A'**

4.
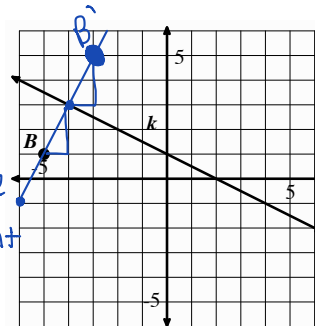
(handwritten:) 1) $m = \frac{2}{4} = -\frac{1}{2}$
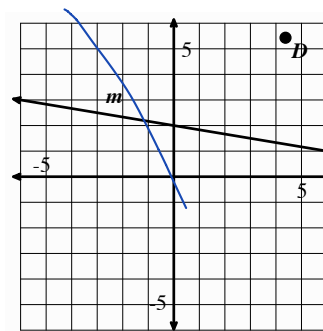
2) $\frac{2}{1}$ $\frac{rise\ 2}{run\ 1}$

Reflect point **B** over line **k** and label the image **B'**

5.

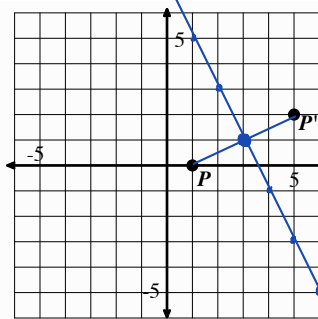Reflect point **C** over line **l** and label the image **C'**

6.

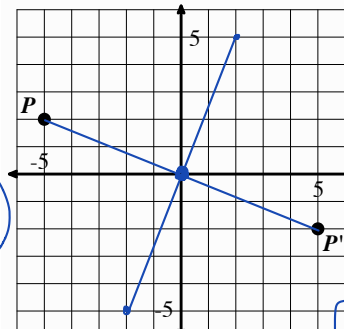Reflect point **D** over line **m** and label the image **D'**

For each pair of point, *P* and *P'* draw in the line of reflection that would need to be used to reflect *P* onto *P'*. Then find the equation of the line of reflection.

7.

(handwritten:) 1) connect points

2) $\frac{2}{4} = \frac{1}{2}$

3) $\frac{-2}{1}$

$P(1,0) \; P'(5,2)$ *(with labels $x_1 y_1$, $x_2 y_2$)*

4) midpoint

$\left(\frac{x_1+x_2}{2}, \frac{y_1+y_2}{2}\right) \left(\frac{6}{2}, \frac{2}{2}\right) (3,1)$

$y = mx + b \quad (3,1) \; m = -2$

$y = -2x \qquad 1 = -2(3) + b$

$\boxed{y = -2x + 7} \qquad 1 = -6 + b$

$7 = b$

8.

(handwritten:) $\frac{4}{10} = -\frac{2}{5}$

2) $+\frac{5}{2}$

$P(-5,2) \; P'(5,-2)$

$\left(\frac{-5+5}{2}, \frac{2-2}{2}\right)$

$\left(\frac{0}{2}, \frac{0}{2}\right) = (0,0)$

$\boxed{y = \frac{5}{2}x + 0}$

$\boxed{y = 5/2x}$

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For each pair of point, *A* and *A'* draw in the line of reflection that would need to be used to reflect *A* onto *A'*. Then find the equation of the line of reflection.

9.
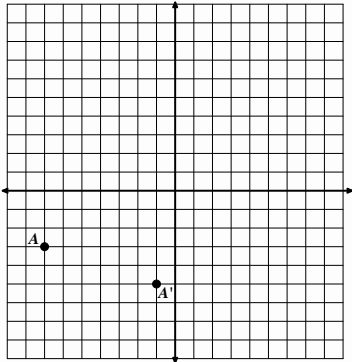
10.
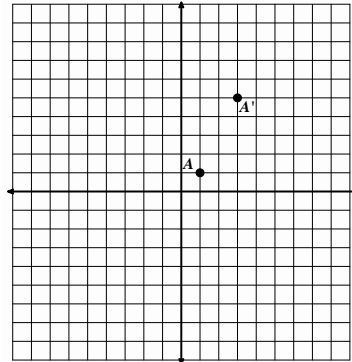
GO

Topic: Slopes of parallel and perpendicular lines and finding slope and distance between two points.

For each linear equation <u>write the slope</u> of a line parallel to the given line.

11. $y = -3x + 5$

12. $y = 7x - 3$

13. $3x - 2y = 8$

For each linear equation <u>write the slope</u> of a line perpendicular to the given line.
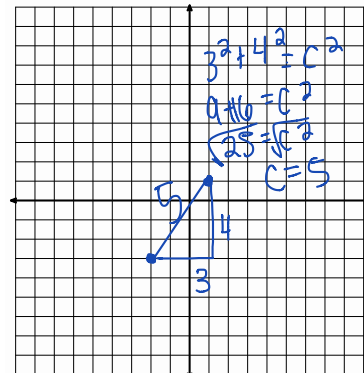
14. $y = -\frac{2}{7}x + 5$

15. $y = \frac{1}{5}x - 4$

16. $3x + 5y = -15$

Find the *slope* between each pair of points. Then, using the Pythagorean Theorem, find the *distance* between each pair of points. You may use the graph to help you as needed.

17. (-2, -3) (1, 1)

a. Slope:

b. Distance: $\sqrt{(x_1 - x_2)^2 + (y_1 - y_2)^2}$

5

$3^2 + 4^2 = c^2$

$9 + 16 = c^2$

$\sqrt{25} = \sqrt{c^2}$

$c = 5$

18. (-7, 5) (-2, -7)

a. Slope:

b. Distance:

READY

Topic: Defining polygons and their attributes

For each of the geometric words below write a definition of the object that addresses the essential elements.

1.   Quadrilateral:

2.   Parallelogram:

3.   Rectangle:

4.   Square:

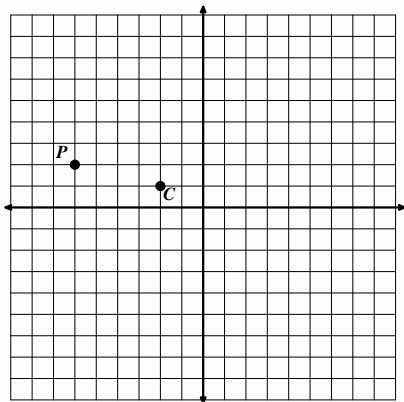5.   Rhombus:

6.   Trapezoid:

MVP
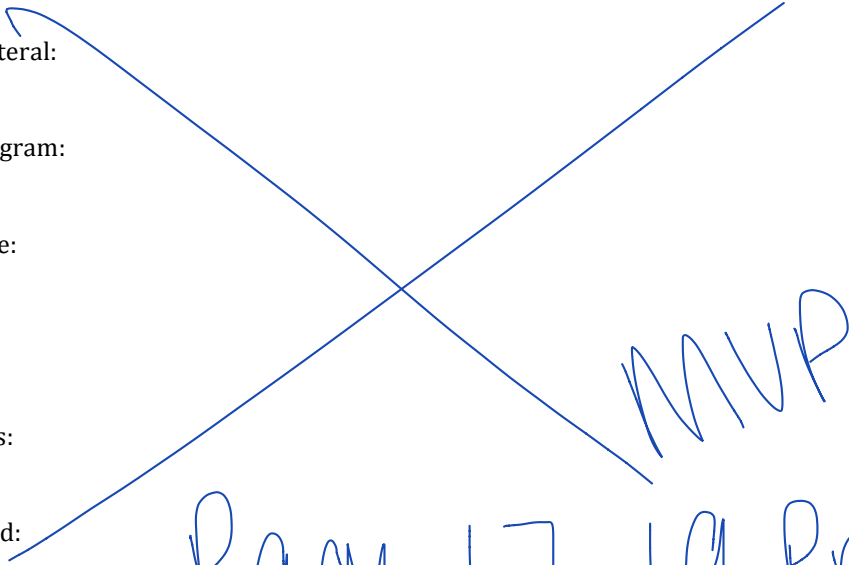
Page 17-19 Practice

SET

Topic: Reflections and rotations, composing reflections to create a rotation.

7.

Use the center of rotation point **C** and rotate point **P** clockwise around it 90^0. Label the image **P'**. With point **C** as a center of rotation also rotate point **P** 180^0. Label this image **P''**.

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