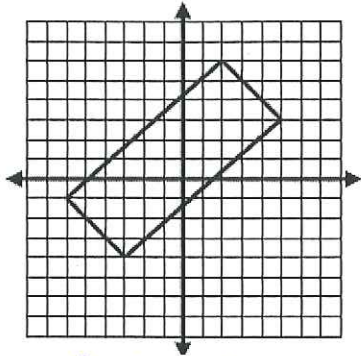


Name: Answer Key - No work Date: _____

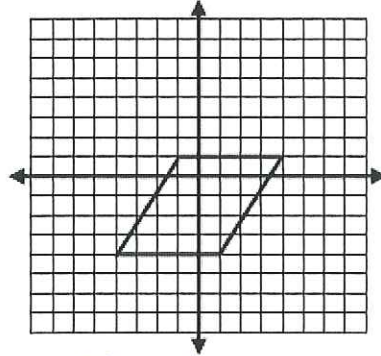
1. **Study** your packet p.30 to review the properties of quadrilaterals and triangles.
2. Use the distance formula and/or slope formulas to identify each of the following shapes.

a.



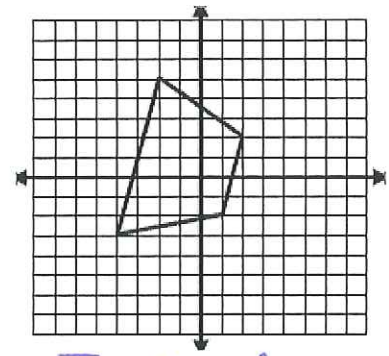
Rectangle

b.



Rhombus

c.



Trapezoid

3. Find the distance between the points. Then, find the midpoint of the points.

a. $(-5, 3)$ $(2, 6)$

$$d \approx 7.62$$

$$\text{midpoint: } (-1.5, 4.5)$$

b. $(3, -2)$ $(-1, 5)$

$$d \approx 8.06$$

$$\text{midpoint: } (1, 1.5)$$

4. Find the coordinates of the **other endpoint** of a segment with an endpoint of $(-1, 5)$ and a midpoint $(2, -3)$.

$$(5, -11)$$

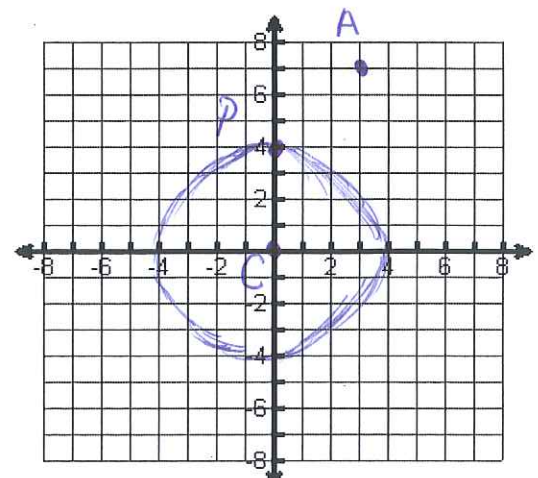
5. Justin and Austin decide to play catch after school. They start at the same point. Justin walks 50 feet north and 20 feet west. Austin walks 40 feet south and 10 feet east. How far apart are they?

$$d \approx 94.87 \text{ ft.}$$

6. Determine whether Point A lies on the circle whose center is Point C and which contains the Point P(0, 4). Justify your answer algebraically showing work.

Point A(3, 7); Point C(0, 0); Point P(0, 4)

NO Point A is Not on the Circle



7. Find the equation of the line between the points (-1, 4) and (3, 12).

$$y = 2x + 6$$

8. Find the equation of the line that is parallel to $y = 2x + 8$ that passes through (-6, 1).

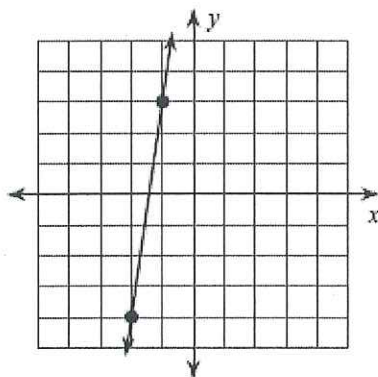
$$y = 2x + 13$$

9. Find the equation of the line that is perpendicular to $y = 3x + 1$ that passes through (9, -2).

$$y = -\frac{1}{3}x + 1$$

10. Using the graph, write the equation of a line that passes through the point (2, 1) & is:
 a. parallel to the line
 b. perpendicular to the line

$$y = 7x - 13$$



$$y = -\frac{1}{7}x + \frac{9}{7}$$

For Question 11-13, refer to the graph on the right.

11. Find a point P on the segment \overline{AB} that partitions it in a 1:2 ratio.

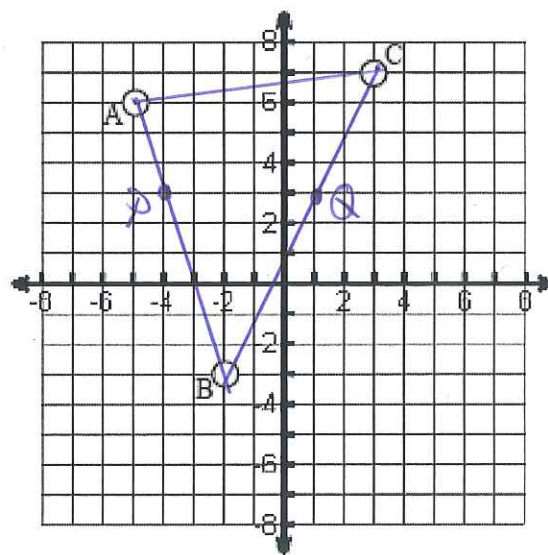
$$P(-4, 3)$$

12. Find a point Q on the segment \overline{BC} that partitions it in a 3:2 ratio.

$$Q(1, 3)$$

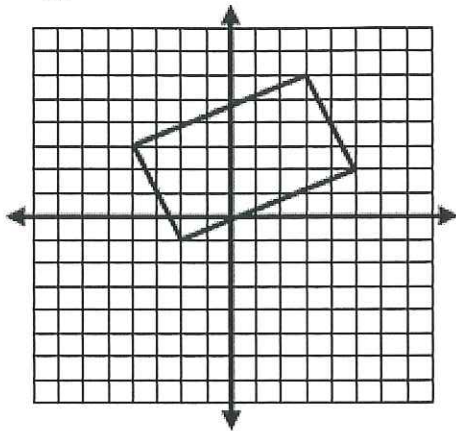
13. Is the triangle formed by the 3 points a right triangle?

NO



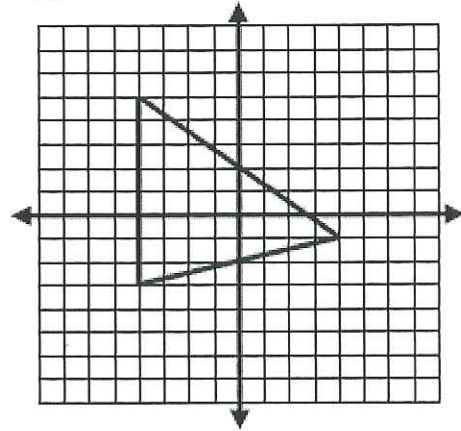
14. Find the perimeter and area of the following figures.

a.



$P \approx 24.16$ units
 $A \approx 34.02$ units²

b.



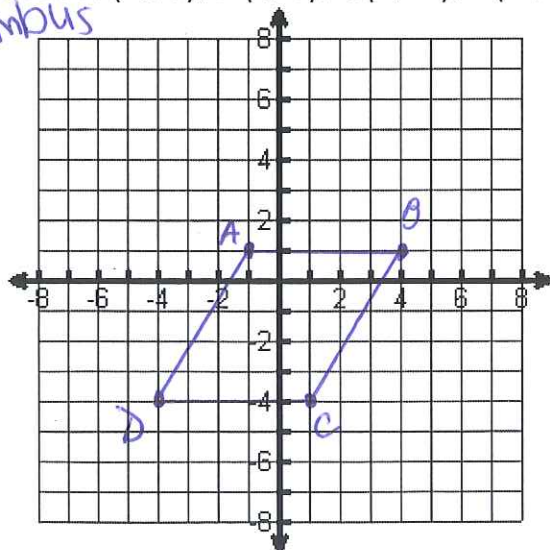
$P \approx 26.25$ units
 $A = 32$ units²

15. Amy is putting a swimming pool in her backyard. She is planning on decorating the pool by outlining it with 1 foot stones. Amy has marked the corners of the pool with flags and has decided to map them on a coordinate grid. The location of the corners fall at S(3, 5), W(5, 1), I(-2, -2), M(-4, 2). How many stones will Amy need for her pool?

25 stones

16. Graph quadrilateral ABCD and give the most specific classification of it. vertices A (-1, 1), B (4, 1), C(1, -4), D(-4, -4)

Rhombus



17. Rectangle JKLM has the following coordinates: J (2, 6) K (5, 3), L (-3, -4). Find the coordinates of point M. (-6, -1)

