

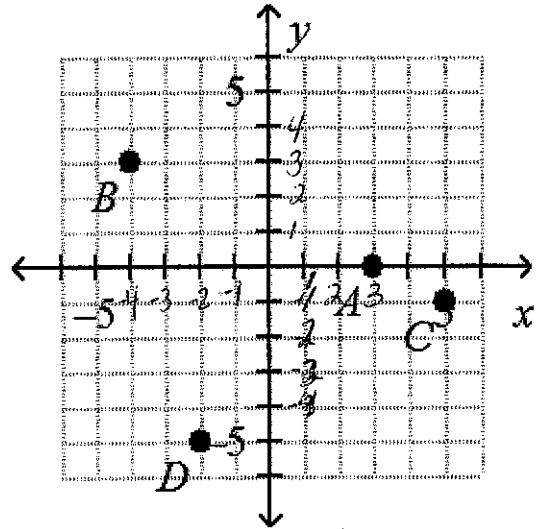
Name: _____

Group: _____

Chapter 9 Study Guide

The Coordinate Plane

1) Give the coordinates and quadrants of points:

A: $(3, 0)$ Quadrant: on x-axis between Q1 and Q4B: $(-4, 3)$ Quadrant: 2C: $(5, -1)$ Quadrant: 4D: $(-2, -5)$ Quadrant: 3

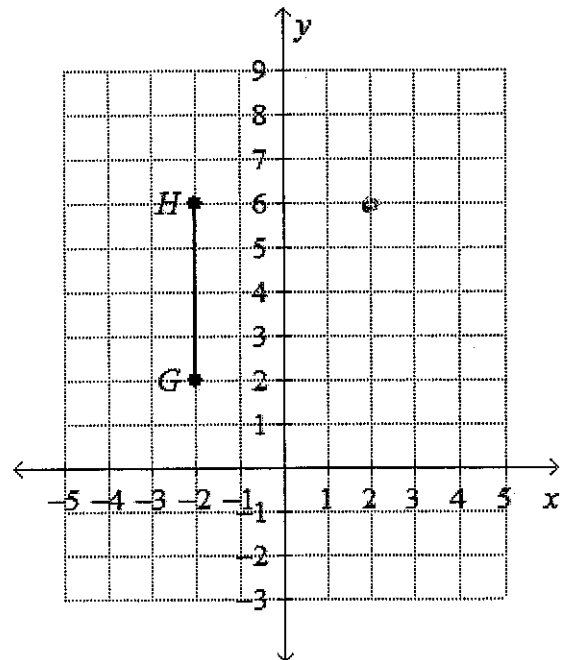
2) Give the coordinates of points:

H: $(-2, 6)$ G: $(-2, 2)$

3) Find the length of the line segment:

: 4 units $|6 - 2|$
 $6 - 2$

4) Points R and H are reflections of each other about the y-axis. Plot point R and give the coordinates.

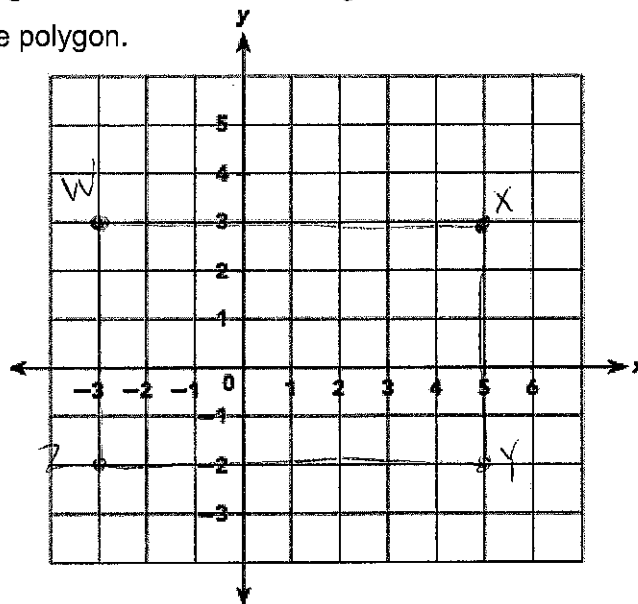
R: $(2, 6)$ 

- 5) Plot points W(-3, 3), X(5, 3), Y(5, -2) and Z(-3, -2) on the coordinate plane. Then connect the points in order with line segments to form a closed figure. Give the most descriptive name for the polygon.

rectangle

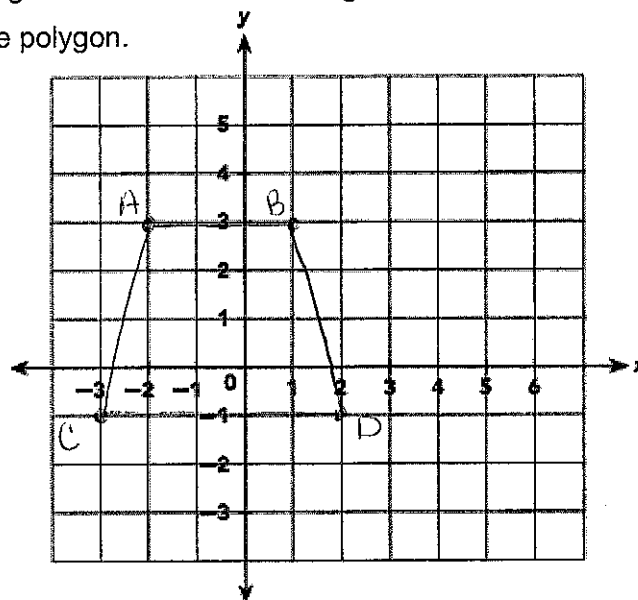
- 6) Find the area of WXYZ:

$$\begin{aligned} \overline{WZ} &= |3| + |-2| & \overline{WX} &= |5| + |-3| \\ 3 + 2 & & 5 + 3 & \\ 5 & & 8 & \\ A &= l \cdot w & & \\ 5 \cdot 8 & & & \\ 40 \text{ units}^2 & & & \end{aligned}$$

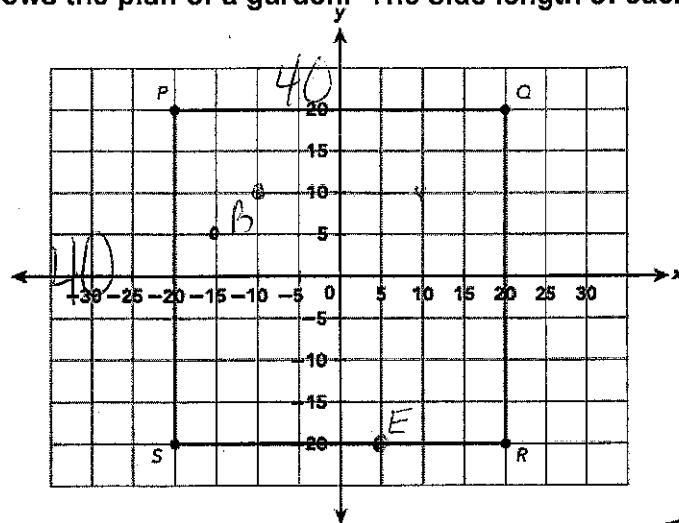


- 7) Plot points A(-2, 3), B(1, 3), C(-3, -1) and D(2, -1) on the coordinate plane. Then connect the points in order with line segments to form a closed figure. Give the most descriptive name for the polygon.

trapezoid



The diagram shows the plan of a garden. The side length of each grid square is 5 feet.



8) A bench is situated at a point B. It is 5 feet from $\overline{PS}$ and 15 feet from $\overline{PQ}$. Plot and label point B on the coordinate plane and give the coordinate of point B.

B: $(-15, 5)$

9) A bed of roses lies 10 feet below $\overline{PQ}$. It stretches from 10 feet away from $\overline{PS}$ up to 10 feet away from $\overline{QR}$. Find the length of the bed of roses.

$\overline{QR}$ $(-10, 10)$ $(10, 10)$
 $|-10| + |10|$
 $10 + 10$
 20ft

10) The entrance to the garden is located at point E which lies on $\overline{SR}$ and is 15 feet from point R. Plot point E on the coordinate plane. Find the shortest distance from the entrance to the bed of roses.

Distance from entrance to the bed of roses: 30ft

11) Calculate the perimeter of the garden.

12) Calculate the area of the garden.

$P(-20, 20)$ $P(-20, 20)$
 $S(-20, -20)$ $Q(20, 20)$

40
 40
 40
 + 40
 160 ft

$A = l \cdot w$
 $40 \cdot 40$
 1600ft^2

A swimmer participated in a competition. The distance swam, d meters, after t seconds, is given by the equation $d = 1.5t$. Complete the table.

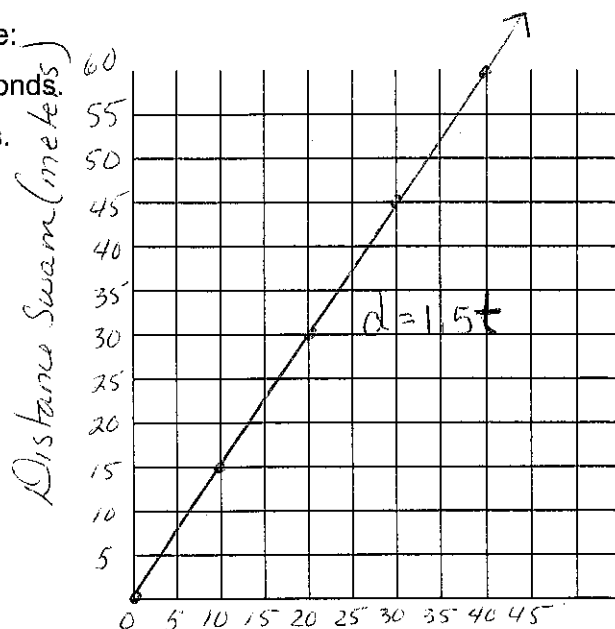
Time (t seconds)	0	10	20	30	40
Distance Swam (d meters)	0	15	30	45	60

Swimmers Distance
vs Time

13) Graph the relationship between t and d . Use:

1 unit on the horizontal axis to represent 5 seconds.

1 unit on the vertical axis to represent 5 meters.



14) What is the distance swam in 25 seconds?

$$d = 1.5(25)$$

$$\begin{array}{r} 25 \\ \times 1.5 \\ \hline 125 \\ 250 \\ \hline 37.5 \end{array}$$

37.5 meters

15) What was the average speed of the swimmer?

$$d = s \cdot t$$

$$\frac{60}{40} = \frac{40 \cdot s}{40}$$

$$\frac{3}{2} = s$$

$$2 \overline{) 3.0}$$

$$\underline{2.0}$$

$$1.0$$

1.5 meters/second

1. Get from equation
2. Use formula

16) Assuming the swimmer swam at a constant speed, what was the distance he swam in 2 minutes?

① Use rate

$$\begin{array}{r} 3 \overline{) 6.0} \\ 9 \overline{) 0.0} \end{array}$$

$$\frac{1.5 \text{ m} \cdot 60}{1 \text{ sec} \cdot 60} = \frac{90 \text{ meters} \cdot 2}{60 \text{ sec or } 1 \text{ min} \cdot 2} = 2 \text{ min}$$

② Use formula $d = \text{rate of Speed} \times \text{time}$

$$1.5 \text{ mps} \times (2 \text{ min} \cdot 60 \text{ sec}) = 120$$

$$1.5 \text{ mps} \times 120 \text{ sec}$$

$$d = 180 \text{ meters}$$