

- 1) Show how you know if the following lines are parallel, perpendicular or neither.

$$y = -\frac{3}{2}x - 10 \text{ and } y = -\frac{2}{3}x + 5$$

- 2) Find the midpoint of the segment  $\overline{AB}$ .

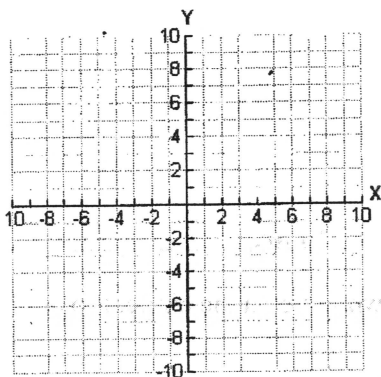
$$A(4, -2) \text{ and } B(-11, 9).$$

Find the slope-intercept form of the line that pass through point A that satisfies the given conditions.

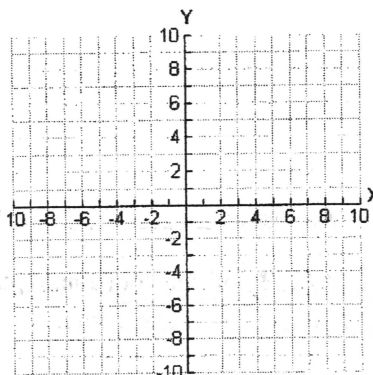
- 5) Point  $A(-6, 3)$ ; parallel to the line  $5x - 2y = 4$ .

- 6) Point  $A(-10, 4)$ ; perpendicular to  $y = \frac{5}{9}x - 5$ .

- 7) Find Point Z that partitions the directed line segment  $\overline{XY}$  in a ratio of  $3:2$ ,  $X(-4, 8)$  and  $Y(-10, -2)$ . Graph segment  $\overline{XY}$  and point Z.



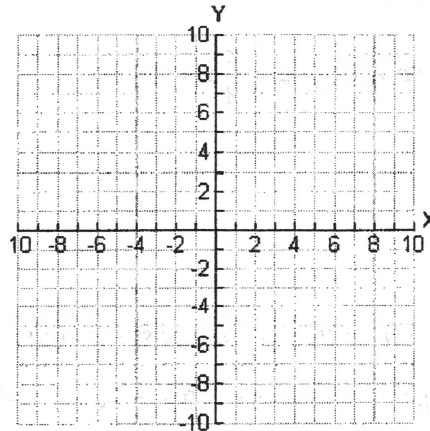
- 8) ABCD has vertices at  $A(-2, 8)$ ,  $B(2, 5)$ ,  $C(2, 0)$ . What point would D have to be for the figure to be a Rhombus? Show that  $\overline{AB}$  and  $\overline{DC}$  are the same length.



Use  $5x^2 + 5y^2 + 40x - 50y + 25 = 0$  for questions 9-12.

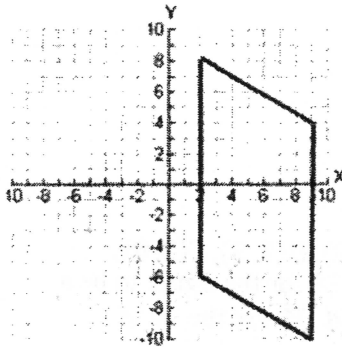
9) Put into standard form, find center & radius in simplest form.

12) Now use a compass to graph accurately.

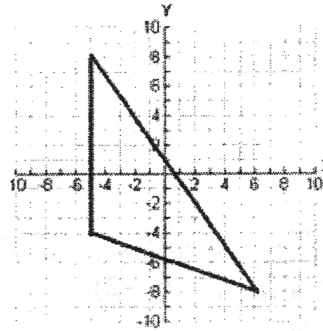


10) Center: \_\_\_\_\_ 11) Radius: \_\_\_\_\_

Find the perimeter and area ( $b \cdot h$ ) of the parallelogram.



Find the perimeter and area ( $\frac{b \cdot h}{2}$ ) of the obtuse triangle.



12) Perimeter: \_\_\_\_\_ 13) Area: \_\_\_\_\_ 14) Perimeter: \_\_\_\_\_ 15) Area: \_\_\_\_\_

16) Circle A's center is located at  $(2, 3)$  on the coordinate plane. Point  $P(-6, -3)$  is known to lie on the circle. Prove if point  $T(7, \sqrt{51})$  does or does not lie on the circle.