

Directions: Determine if the lines are parallel, perpendicular, or coincidental. Explain why.

$$\begin{cases} y = -2x - 3 \\ y = -2x + 3 \end{cases}$$

$$2) \begin{cases} 2y - 8x = -10 \\ y = 4x - 5 \end{cases}$$

$$3) \begin{cases} y = -\frac{1}{3}x + 3 \\ y = 3x + 3 \end{cases}$$

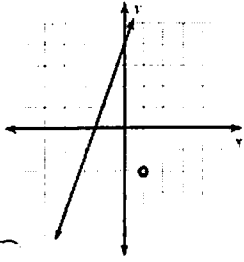
Directions: Write an equation of a line with the following characteristics.

4) Is perpendicular to the equation  $y = 2x - 5$  and has a  $y$ -intercept of 3.

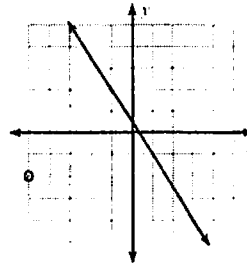
5) Is parallel to the equation  $y = 5x + 3$ .

Directions: Find each equation...

6) ... that is parallel to the given line & passes through the given point.



7) ... that is  $\perp$  to the given line & passes through the given point.



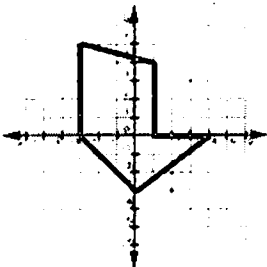
Directions: Find the distance between each set of coordinates. Round your answer to the nearest tenth.

8)  $A(2, 5)$  &  $B(20, 5)$

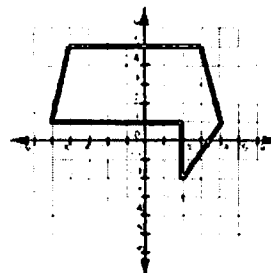
9)  $C(1, 6)$  &  $D(-4, 0)$

Directions: Find the perimeter and area of each shape.

10)



11)



Directions: Solve each problem.

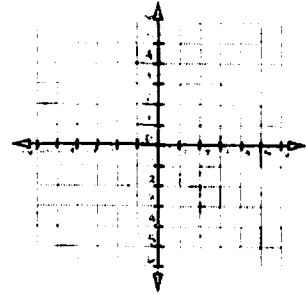
12) If  $W(3, -4)$  is an endpoint of segment  $WT$  and the midpoint is  $(5, -2)$ . What is the ordered pair that represents Point  $T$ ?

13)  $R(5, -5)$  and  $S(-3, 1)$  have a midpoint of  $(a, b)$ . What is the value of  $a$  and  $b$ ?

14) Segment RJ is partitioned at Point Q at a ratio of 3:5.  
If R(-1, 8) and J(15, 0). What is Point Q?

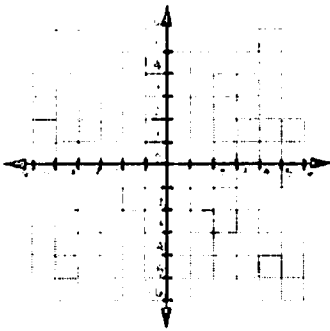
15) Cameron partitioned a segment at a ratio of 1:1.  
Lucy said she could split this segment another way.  
Explain how this is possible?

16) Three vertices of parallelogram ABCD are A (2, -6), B (-1, 2), and C(5, 3).  
Find the coordinates of vertex D.



**Directions: Plot the points and complete the coordinate proof.**

17) Quadrilateral PQRS: P (-3, 1) Q (1, 3) R (5, 1) S (1, -1)

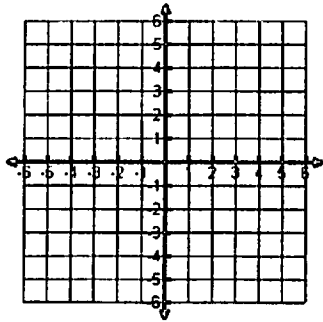


**Directions: Graph each circle. State the center and the radius.**

18)  $x^2 + y^2 = 16$

Center: \_\_\_\_\_

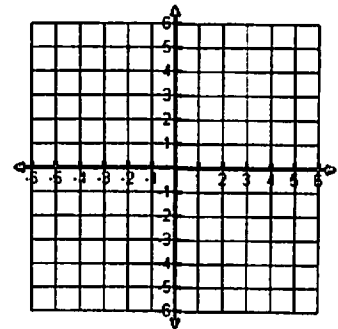
Radius: \_\_\_\_\_



19)  $(x - 2)^2 + (y + 3)^2 = 4$

Center: \_\_\_\_\_

Radius: \_\_\_\_\_



**Directions: Write the equation in standard form.**

20) The center is (-2, 1) & diameter is 6 units.

21) General form is  $x^2 + y^2 - 3x + 5y = 4$

22) The center is (2, 4) & is tangent to  $y = 0$ .

23) General form is  $3x^2 + 3y^2 = 12x + 21$

24) Has a diameter with endpoints (3, 0) & (-3, 8)

25) Area is  $16\pi$  units<sup>2</sup> and has a center at the origin