

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

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

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

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

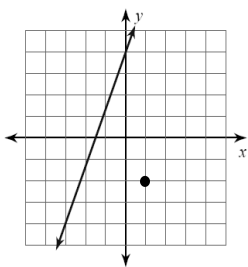
Directions: Write an equation of a line with the following characteristics.

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

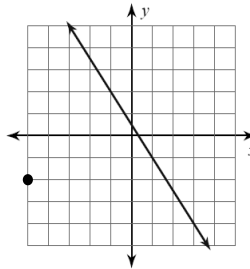
5) Is parallel to the equation $y = 5x + 3$.

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.



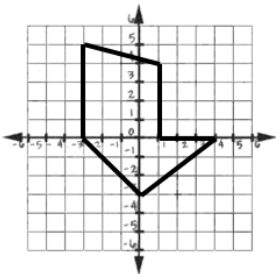
Directions: Find the distance between each set of coordinates. Round your answer to the nearest tenth.

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

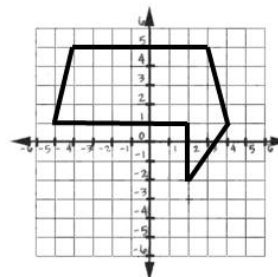
9) C(1, 6) & D(-4, 0)

Directions: Find the perimeter and area of each shape.

10)



11)



Directions: Solve each problem.

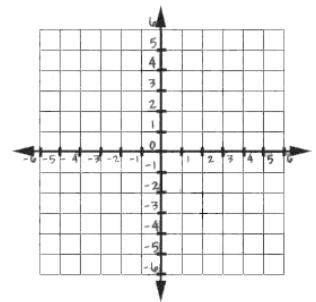
12) If $W(3, -4)$ is an endpoint of segment WT and the midpoint is $(5, -2)$. What is the ordered pair that represents Point T ?

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 ?

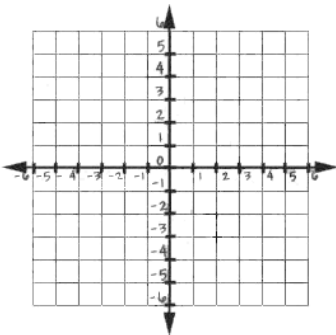
15) Cameron partitioned a segment at a ratio of $1:1$. Lucy said she could split this segment another way. Explain how this is possible?

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

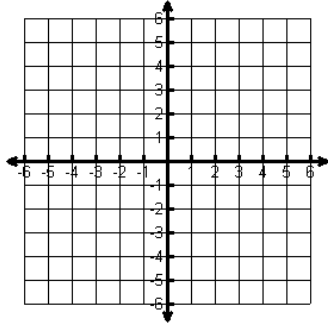


Directions: Graph each circle. State the center and the radius.

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

Center: _____

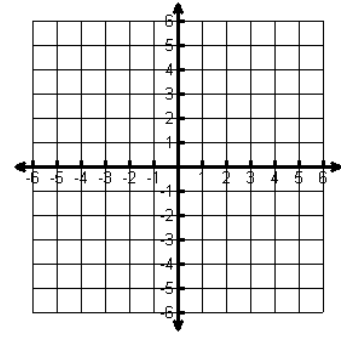
Radius: _____



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 16π units² and has a center at the origin