

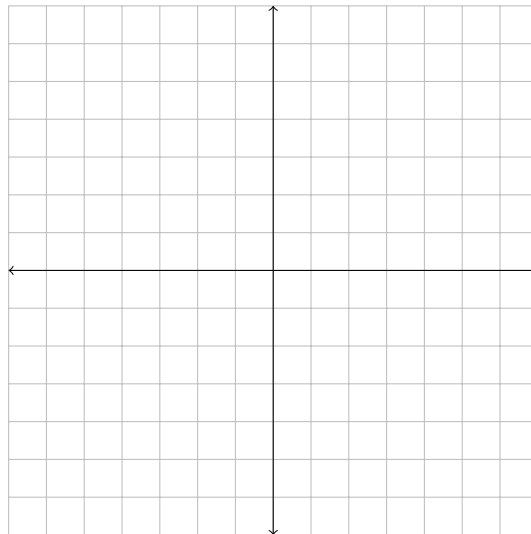
Name: _____

College Algebra: Review (Test 2)

1. Find an equation for the line passing through the point $(3, -1)$ and having slope $2/5$.

2. Find the distance between the points $(2, -3)$ and $(1, -3)$.

3. Plot the graph of the linear equation $y = -\frac{1}{2}x + 3$ on the plane below.



4. Find the slope between the points $(5, -6)$ and $(5, -2)$.

5. Find the midpoint of the points $(2, -4)$ and $(-7, -1)$.
6. Find an equation for the circle centered at $(3, 4)$ and passing through $(-2, 1)$.
7. Find an equation for the line passing through the points $(6, -3)$ and $(-3, 5)$.
8. Convert the standard form linear equation $6y + 5x = -1$ to slope-intercept form.

9. Find an equation in slope-intercept form for the line passing through the point $(2, 2)$ and parallel to $y = \frac{1}{2}x + 1$.

10. Evaluate the function

$$f(x) = 5x^3 + 3x + 4$$

at $x = 2$, $x = 0$, $x = -3$, and $x = 1/2$.

11. Evaluate the function

$$f(x) = \begin{cases} 4x - 4 & \text{if } x \geq 3 \\ \frac{1}{x^2 - 5} & \text{if } x < 3 \end{cases}$$

at $x = 8$, $x = 1$, and $x = -2$.

12. Let $f(x) = 5x + 6$ and $g(x) = x^2 - 3$. Compute the following.

(a) $(f \circ g)(3)$

(b) $(g \circ f)(3)$

(c) $(f \circ g)(x)$

13. Find the domain of the following function.

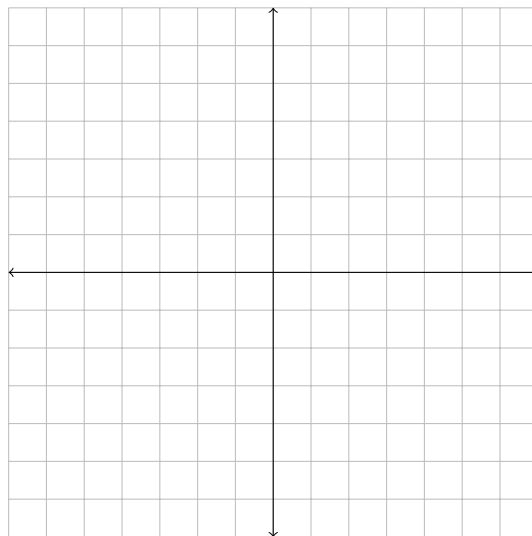
$$f(x) = \frac{5x^3 + x^2 + x + 4}{x^2 - 2x - 3}$$

14. Find the domain of the following function.

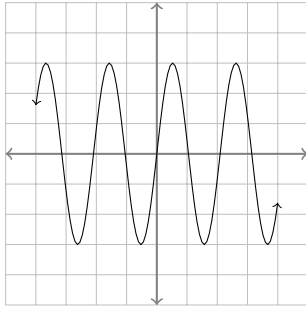
$$f(x) = \sqrt{5x + 5}$$

15. Sketch the graph of the following equation in the space provided.

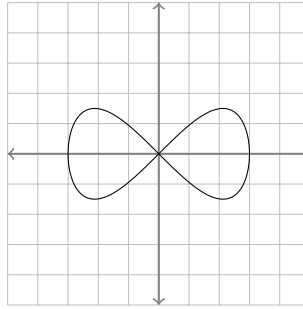
$$(x + 1)^2 + (y - 3)^2 = 1$$



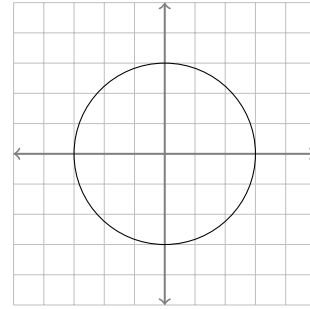
16. Determine whether or not the following graphs are symmetric across the x -axis, across the y -axis, or about the origin.



x -axis: yes/no
 y -axis: yes/no
 origin: yes/no



x -axis: yes/no
 y -axis: yes/no
 origin: yes/no



x -axis: yes/no
 y -axis: yes/no
 origin: yes/no

17. Determine whether or not the following equations are symmetric across the x -axis, across the y -axis, about the origin, or none of the three.

(a) $xy + y^2 = 2$

(b) $y^3 - 1 = x^3 - 2$

(c) $x^3 = y^2 + 1$