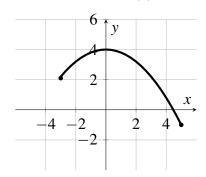
Directions: Place your answer in the blank provided. For graphing questions, a set of axes are provided. All graphs must be labeled.

1. Simplify $\left(\frac{8}{9}\right)^{-1/2}$.

2. Write the slope intercept form (that is, the form: y = mx + b) of the equation of the line containing the point (2,3) parallel to the line 6x + 2y = 7.

- 3. Simplify the expression $\frac{3x^2y 4x^3}{xy^2}$. Write your answer without negative exponents.
- 4. Use the graph of f(x) below to estimate f(3).



5. Simplify the rational expression: $\frac{x+y}{1+\frac{1}{y}}$.

6. Solve the equation $3x^2 - 2x - 1 = 0$.

7. Given the piecewise defined function below, determine the value(s) of x such that f(x) = 3.

$$f(x) = \begin{cases} x^2 & x \le 1 \\ x+3 & x > 1 \end{cases}.$$

- 8. Find the exact value of $\sin(2\pi/3)$.
- 9. Find the equation for the top half of the circle with center (0,0) and radius 3.

10. For the function $f(x) = x^2$, find the expression f(2) - f(2+h). Simplify your answer if possible.

11. Using the table of values for the function f(x), determine $f^{-1}(2)$.

х	1	2	3	4	5	6	7	8	9	10
f(x)	0.5	1	1.7	1.9	2	4	4.5	5.1	6.7	10.8

12. Let g(x) = 2x + 1, find $(g \circ g)(x)$. You do not need to simplify your answer.

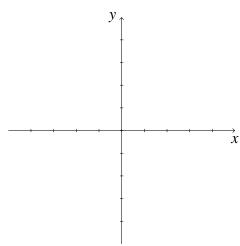
13. Solve for *x* in the equation $ln(x^2 - 5) = 4$.

14. Determine the domain of $f(x) = \frac{1}{1 - \sqrt[3]{x}}$. Give your answer in interval notation

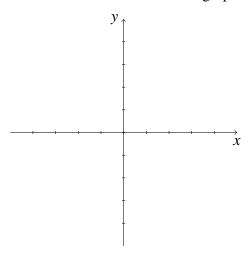
15. Solve the equation $0 = \tan x$.

16. Find the exact value of the expression $\log_{10}(25) + \log_{10}(4)$.

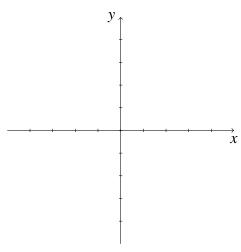
17. On the axes below, sketch the graph of $y = -\sqrt{x}$.



18. On the axes below, sketch the graph of $y = 2\sin(x) + 3$ on the interval $[-2\pi, 2\pi]$.



19. On the axes below, sketch the graph of $y = \ln(x - 1)$.



20. Solve the inequality $x^2 - 4 \ge 0$.