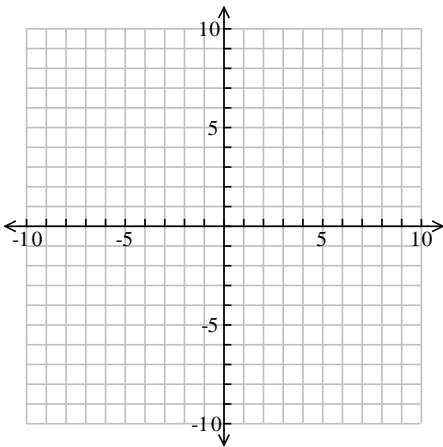


1. Are the points $\left(-4, \frac{1}{4}\right)$ and $(1, 3)$ on the graph of $3x^2y^2 + x = xy$?

2. Given $y = |4 - x| + 3$.

a. Find the x -intercept(s) and y -intercept.

b. Graph y .



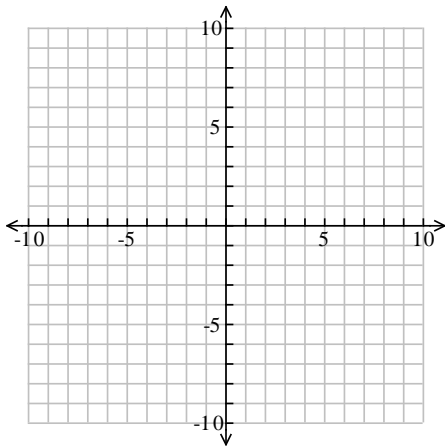
c. Find the domain and range in interval notation.

3. Find the x -intercept(s) and y -intercept(s) of $x^2y^3 - x^2 + 2y^2 = -50$.

4. Test $x^2y^4 - 2x^2 = -3xy^3$ for symmetries.

5. Given the line $5x + 4y = 20$.

a. Graph the given line.



b. Find the equation of the line that passes through the x -intercept of the given line and that is perpendicular to the line $y = \frac{x}{4} + 9$.

9. If $f(x) = \frac{2}{2x-7}$, evaluate the difference quotient.

10. What is the domain of the following functions?

a. $f(x) = \frac{2x-4}{x^2-\pi^2}$

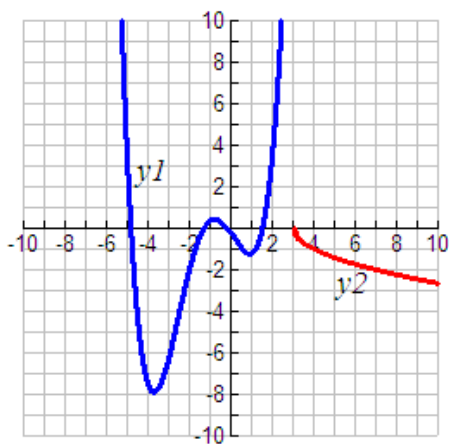
b. $f(x) = \sqrt[4]{x^2+x-72}$

11. A speed boat traveled downstream in 3.2 hours while the return trip upstream took $\frac{64}{15}$ hours.

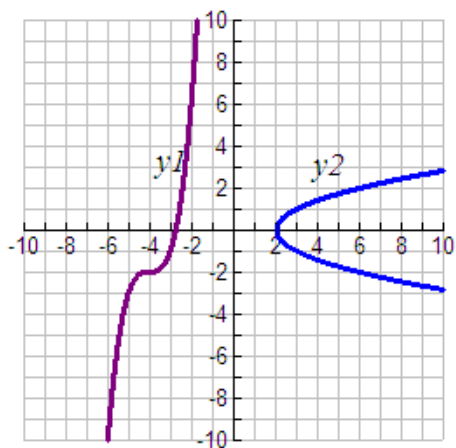
If the speed boat was going 28 miles per hour, what was the speed of the current?

12. A customer wants 8 pounds of 30% pecan nut mixture. How many pounds of 25% pecan nut mixture and how many pounds of 50% pecan nut mixture is needed?

13. Use the graph to find the domain and range of the two functions.

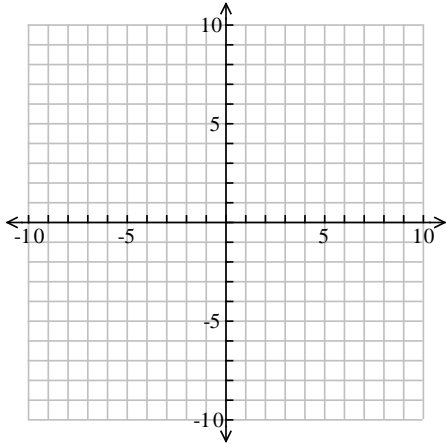


14. Which of the two graphs represents a function?



15. Given $f(x) = \begin{cases} \frac{1}{x+5} & \text{if } x < -5 \\ x & \text{if } -5 < x \leq -1 \\ x^2 & \text{if } 0 < x \leq 3 \\ 6 & \text{if } 3 < x \leq 7 \end{cases}$

- a. Graph the given function.



b. $f(-2) =$

c. $f(2) =$

d. $f(-6) =$

e. $f\left(\frac{-1}{2}\right) =$

f. $f(5) =$

g. On what intervals is $f(x)$ increasing?

h. On what intervals is $f(x)$ decreasing?

16. Given the graph $f(x)$. Graph $y_1 = f(x-2)$ and $y_2 = f(-x)+4$ on the same coordinate plane.

