

Students will review Algebra skills while learning how the structure of a PreCalculus works.

1. Solve for x.

$$x^2 - 12x + 11 = 0$$

2. Find the mistake and correct it.

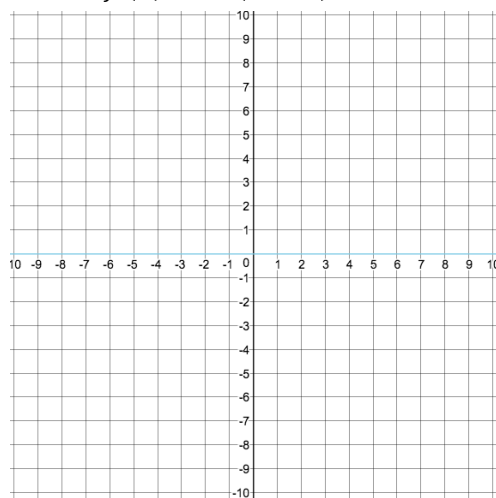
Suppose  $g(x) = 3x^2 - 5x + 12$

Evaluate  $g(4)$

$g(4) = 3x^2 - 5x + 12$   
 $4 = 3x^2 - 5x + 12$   
 $-4 \quad -4$   
 $0 = 3x^2 - 5x + 8$   
 $\begin{array}{r} 24x^2 \\ 3x \quad -5x \\ \hline 8 \quad 8x \quad 24 \\ 3x \quad 3x^2 \quad -5x \\ \hline x \quad -1 \end{array}$   
 $(3x+8)(x-1)$   
 $x = \frac{-8}{3} \quad x = 1$

3. Graph the function below:

$$f(x) = -(x - 3)^2 + 2$$



4. Solve for x.

$$3x - 5 = 10$$

5. Solve for x.

$$3x^2 + 13x + 12 = 0$$

6. Solve for x.

$$3x^2 + 27x = 0$$

7. Find the domain of the function algebraically.

$$f(x) = \sqrt{x + 9}$$

8. Find the domain of the function algebraically.

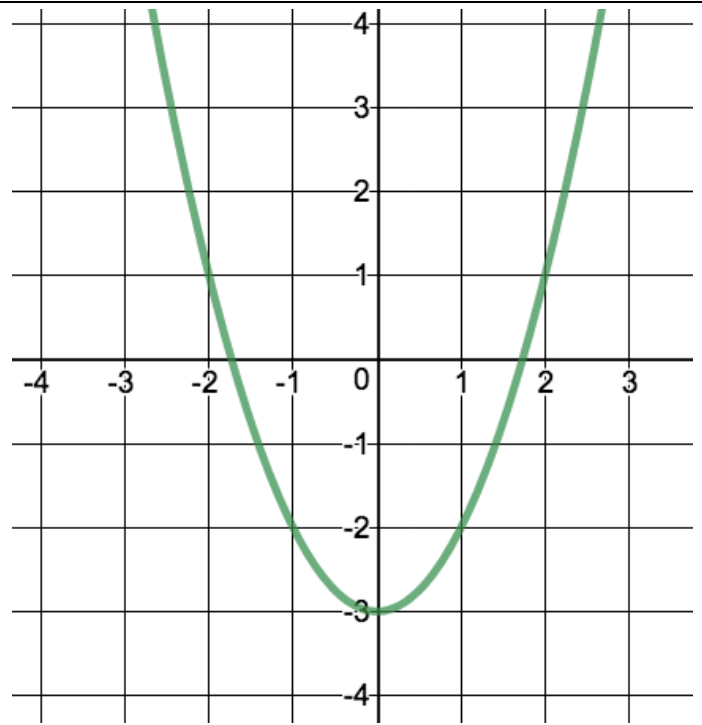
$$g(x) = \frac{1}{x - 5}$$

9. Algebraically find the domain.

$$h(x) = \frac{3x}{x^2 - 25}$$

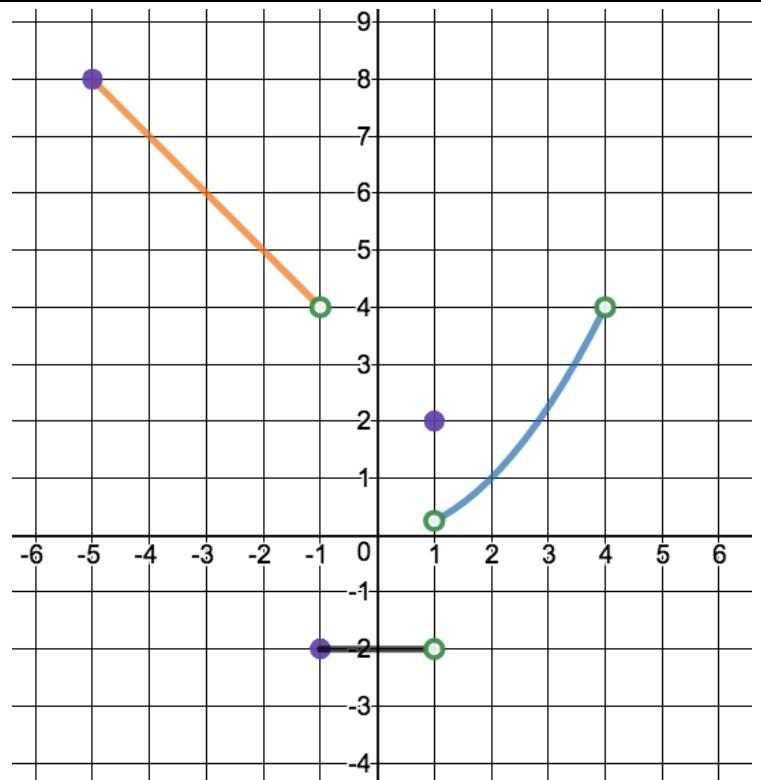
10. The graph of  $g(x)$  appears to the right. Use the graph to answer the questions.

- a) Find  $g(2)$
- b) Find the domain of  $g(x)$
- c) Find the range of  $g(x)$
- d) Solve  $g(x) = -2$
- e) Find  $g(-1)$



11. The graph of  $f(x)$  appears to the right. Use the graph to answer the questions.

- a) Find the domain of  $f$ .
- b) Find the range of  $f$ .
- c) Find  $f(2)$
- d) Find  $f(1)$
- e) Solve  $f(x) = 5$
- f) Find  $f(-3)$
- g) Solve  $f(x) = 2$



12. Write the equation of the piecewise function in problem 11.