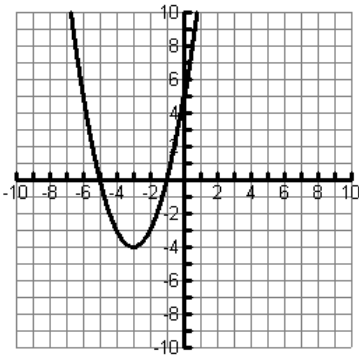


1. Find the zeros of each function.

a.

b. $f(x) = x^2 - 10x + 21$

c. $f(x) = 3x^2 - 27$



a. _____, _____

b. _____, _____

c. _____, _____

2. Find the roots of each equation using factoring.

a. $x^2 - 3x - 4 = 0$

b. $8x = 21 - 5x^2$

3. Solve by completing the square:

a. $2x^2 + 16x = -11$

b. $x^2 - 10x - 3 = 0$

4. Write the equation in vertex form, and identify its vertex.

$$y = x^2 + 6x - 2$$

Vertex Form _____

Vertex _____

5. A rocket is launched from ground level with an initial velocity of 112 ft/s. After how many seconds will the rocket hit the ground? Use $h(t) = -16t^2 + v_0t + h_0$.

Write the equation used to solve this problem. _____

Find the number of seconds after the rocket is launched that it will hit the ground. _____

6. Write the equation in vertex form, and identify its vertex.

$$y = x^2 - 12x - 7$$

Vertex Form _____
Vertex _____

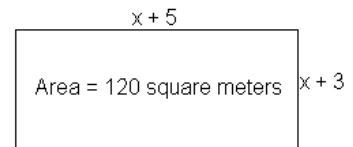
7. Solve by using the square root property (extracting the square root).

$$3x^2 - 5 = 55$$

_____, _____

8. Write an equation for finding the dimensions of a rectangle in the figure, then solve the equation and state the dimensions of the rectangle. Label your answers.

Equation _____



Length _____

Width _____