

Structure in Expressions - Worksheet 4

Answer Key

Find the zeros of the following mathematical expressions:

1. $(x - 2)(x + 7)$.
 $x = 2, -7$.

2. $(3x - 5)(7x + 2)$.
 $x = \frac{5}{3}, -\frac{2}{7}$.

3. $x^2 - 7x + 10$.
 $x = 5, 2$.

4. $3x^2 + 12x + 12$.
 $x = -2, -2$.

5. $2x^2 - 9x + 10$.
 $x = \frac{5}{2}, 2$.

6. $x^3 + 5x^2 - 6x$.
 $x = -6, 0, 1$.

7. $x^5 - 25x^3 + 144x$.
 $x = -4, -3, 0, 3, 4$.

Solve the following problems:

8. A gardener has 50 feet of fencing and wants to use all of it to fence in a rectangular plot with area 100 square feet. What should the dimensions of the fenced in area be?
5 and 20 feet.

9. Is the vertex of $y = x^2 + 3x + 2$ a minimum or a maximum? What are the coordinates of the vertex?
The vertex $(-\frac{3}{2}, -\frac{1}{2})$ is a minimum.

10. Does the quadratic $y = -x^2 - 5x + 6$ have a minimum or a maximum? What are the coordinates of the vertex?
The vertex $(-\frac{5}{2}, \frac{49}{4})$ is a maximum.