Structure in Expressions - Worksheet 3

Find the zeros of the following mathematical expressions:

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

2. $(3x-5)(7x+2)$.

3. $x^2 - 7x + 10$.

4. $3x^2 + 12x + 12$.

5. $2x^2 - 9x + 10$.

6. $x^3 + 5x^2 - 6x$.

7. $x^5 - 25x^3 + 144x$.

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?

9. Is the vertex of $y = x^2 + 3x + 2$ a minimum or a maximum? What are the coordinates of the vertex?

10. Does the quadratic $y = -x^2 - 5x + 6$ have a minimum or a maximum? What are the coordinates of the vertex?