

Name _____ Date _____ Per _____

Factoring Word Problems Practice

- 1.) What is the formula for the area of a rectangle? _____
- 2.) What is the formula for the perimeter of a rectangle? _____

Underline key words and draw diagrams

2.) A homeowner wants to enlarge a rectangular area of $(x^2 + 3x + 2)ft^2$. The length is $(x + 2)ft$. After construction, the area will be $(x^2 + 8x + 15)ft^2$ with a length of $(x + 3)ft$.

- a.) Find the dimensions of the closet before construction.

- b.) Find the dimensions of the closet after construction.

- c.) By how many feet will the length and width increase after construction?

3.) The area of Beth's rectangular garden is $(x^2 + 13x + 42)ft^2$. The width is $(x + 6)ft$.

- a.) What is the length of the garden?

- b.) Find the perimeter of the garden in terms of x .

- c.) Find the cost to fence the garden when $x = 5$ and the fencing costs \$2.00 per foot.

- d.) Find the cost of fertilizer when $x = 5$ and the fertilizer costs \$0.28 per square foot.

- e.) Find the total cost to fence and fertilize Beth's garden when $x = 5$.