

Name: \_\_\_\_\_

Unit 8: Quadratic Equations

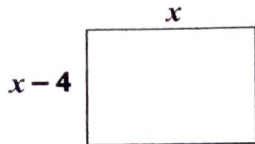
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Homework 13: Quadratic Equation  
Word Problems



**\*\* This is a 2-page document! \*\***

1. Given the diagram below, find the value of  $x$  if the area is 21 square meters.



2. The dimensions of a rectangle can be given by  $x + 7$  and  $x + 2$ . If the area of the rectangle is 66 square inches, what are the dimensions of the rectangle?

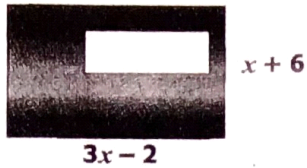
3. The length of a rectangle is 6 meters more than its width. If the area of the rectangle is 135 square meters, find its dimensions.

4. The length of a rectangle is 1 meter less than its width. The area of the rectangle is 42 square meters. Find the dimensions of the rectangle.

5. The length of a rectangle is 4 meters less than twice its width. The area of the rectangle is 70. Find the dimensions of the rectangle.

6. The dimensions of a square are altered so that one dimension is increased by 7 feet and the other is decreased by 2 feet. The area of the resulting rectangle is 90 square feet. Find the original area of the square.

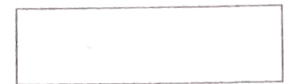
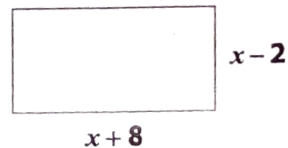
7. If the area of the shaded region in the diagram below is 103 square feet, what are the dimensions of the inside rectangle?



8. The side length of a square can be expressed as  $2x + 3$ . If the area of the square is 121 square meters, what is the value of  $x$ ?

9. A square was altered so that one side is increased by 9 inches and the other side is decreased by 2 inches. The area of the resulting rectangle is 60 square inches. What was the area of the original square?

10. If the area of the rectangle below is 39 square feet, find the value of  $x$ .



11. If the area of the rectangle below is 42 inches squared, find the value of  $x$ .



12. The length of a rectangle is five feet less than its width. If the area of the rectangle is 84 square feet, find its dimensions.