

9.5: Solving when $a = 1$

“I WILL ...

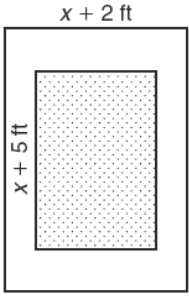
Solve Quadratic Functions when $a = 1$.”

I. Quadratic Applications

- A. Read the question TWICE
- B. Understand the Question
- C. _____ key numbers and terms
- D. _____ equation using the graphing calculator
- E. When graphing, ALWAYS label the x and y -axis (Remember: y depends on x)
- F. _____ the units

II. Model Problems

Ex 1: A square has an area of $x^2 - 8x + 16$. Find the length and width using tiles.	Ex 2: A square has an area of $x^2 + 4x + 4$. Find the length of the side.
Your Turn: A square has an area of $x^2 - 10x + 25$. Find the length of the side.	Ex 3: A plot of land is rectangular and has an area of $x^2 - 5x - 24$ m ² . The length is $x + 3$ m. Find the width of the plot of land.

<p>Ex 4: The area of a poster board is $x^2 + 3x - 10$ inches. The width is $x - 2$ inches. Find the length of the poster board. Then, find the dimensions when $x = 14$.</p>	<p>Your Turn: The area of a rectangle is given by $A = x^2 + 4x - 5$ m. Find expressions for the length and width of the rectangle. Then, find the dimensions if $x = 10$ m.</p>
<p>Ex 5: The area of a rectangle is $12x^2 + 6x$. Find the length of the rectangle if the width is $6x$. Then find the dimensions if $x = 5$.</p>	<p>Ex 6: An antique Persian carpet has an area of $x^2 + x - 20$ ft² and a length of $x + 5$ ft. The rug is displayed on a wall in a museum. The wall has a width of $x + 2$ feet and an area of $x^2 + 17x + 30$ ft². Write expressions for the length and width of both the rug and wall. Then find the dimensions of the rug and if $x = 20$ feet.</p> 
<p>Ex 7: A carpet has an area of $x^2 + 5x - 6$ ft² and a length of $x + 6$ ft. The rug is displayed on a wall in a museum. The wall has a width of $x + 2$ feet and an area of $x^2 + 10x - 24$ ft². Write expressions for the length and width of both the rug and wall. Then find the dimensions of the rug and if $x = 15$ feet.</p>	