Algebra 1 ECA Remediation Day 34

Geometric Application of Quadratic Equations

Use quadratic equations to solve word problems that involve squares and rectangles.

Example #1

Solve for x.

x+3 Area = 108 sq. un. x+6

- (x+3)(x+6) = 108
- x^{2} + 6x + 3x + 18 = 108
- $x^2 + 9x + 18 = 108$

 $x^2 + 9x - 90 = 0$

Use quadratic formula to solve:

$$x = \frac{-9 \pm \sqrt{9^2 - 4(1)(-90)}}{2(1)}$$

$$x = 5$$
 AND (-15)

x = 6

* -15 is not a real solution because it would make the side lengths negative, which is impossible.