Factoring Word Problems.

(warm ups)

Factoring Word Problems #1

The area of a rectangular door is given by the trinomial $x^2 - 14x + 45$. The door's width is $(x - 9)$. What is the door's length?

$(x - 5)$

Factoring Word Problems #2

The area of a rectangular painting is given by the trinomial $a^2 - 6a - 16$. The painting's length is $(a + 2)$. What is the painting's width?

x - 8

Factoring Word Problems #3

The area of a rectangular computer screen is $4x^2 + 20x + 16$. The width of the screen is $2x + 8$. What is the length of the screen?
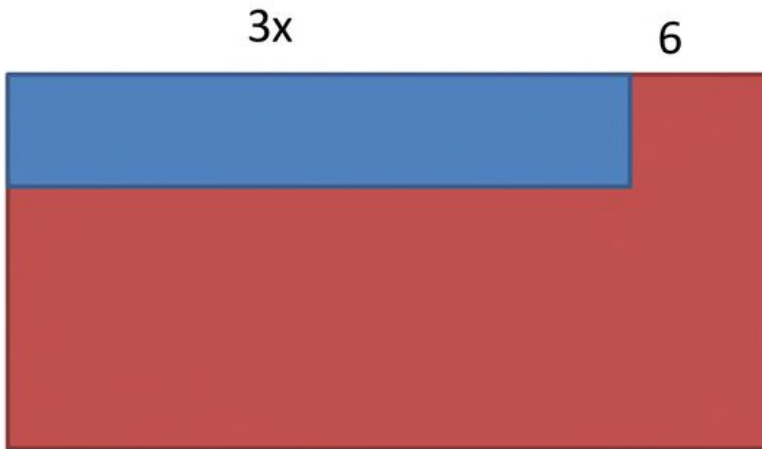
2x + 2

Factoring Word Problems #4

The area of a rectangular granite countertop is $12x^2 + 10x - 12$. The width of the countertop is $2x + 3$. What is the length of the countertop?

6x - 4

Factoring Word Problems #5

Find the missing side if the area is $6x^2 + 33x + 42$.

3x   6

➢ 2x + 7

Factoring Word Problems #6

- When $2r^2 + 33r - 54$ and $r^2 + 18r$ are factored, a common factor is what?

➤ $(r + 18)$

Factoring Word Problems #7

- If $x + 3$ is a factor of $x^2 - 4x - w$, then what is the value of w?

➤ $x - 7$, w = 21

Factoring Word Problems #8

- A rectangle has dimensions that are the binomial factors of $x^2 + 8x + 16$. What is the perimeter of the rectangle?

- 4x + 16