

**Simplify**

Sometimes you are at a loss on what to do and you just want to do something. Or, you might see that there are several steps to go through and you just want them all done at once.

This is the job of Simplify



Basically Simplify is given a lot of stuff and asked to return not so much stuff.



$$\square x + 3y + 3xy \square 5x + 2y + 5x^2 + xy \square 7y + 2xy + 5x^2$$

$$\triangle x + 3y + 3xy \square 5x + 2y + 5x^2 + xy \square 7y + 2xy + 5x^2 = 10x^2 \square 4x + 6xy \square 2y \quad \text{Simplify}$$



Sometimes LiveMath has different roads it could follow and would rather you lead the way. [Simplify the following expression:](#)

$$\square (x + 2)^2 + (x \square 3)(x + 2)$$

LiveMath could expand. Livemath could factor. These would produce drastically different outputs. Expand produces a long sum and factor produces a product.

We want a product:

$$\square (x + 2)^2 + (x \square 3)(x + 2)$$

$$\triangle (x + 2)^2 + (x \square 3)(x + 2) = (x + 2)(2x \square 1) \quad \text{Factor}$$



Now It's Your Turn... Follow the directions below to get hands on experience.



1.

Simplify the following expression

$$x + 2y + 3xy - 8x + 2y + 5y^2 + xy - 2y + 3xy + 7y^2$$