

# Unit 7 Lesson 14: Rewriting Quadratic Expressions

## 1 Writing Quadratics in Standard Form (Warm up)

### Student Task Statement

Use the given information to write a quadratic expression in standard form.

- $a = k^2$
- $b = 2k \cdot m$
- $c = m^2$

1.  $k = 1, m = 3$
2.  $k = 2, m = 3$
3.  $k = 2, m = 4$
4.  $k = 3, m = 5$

## 2 Practice Writing Expressions in Standard Form

### Student Task Statement

In their math class, Priya and Tyler are asked to rewrite  $(5x + 2)(x - 3)$  into standard form.

Priya likes to use diagrams to rewrite expressions like these, so her work looks like this.

	$x$	$-3$
$5x$	$5x^2$	$-15x$
$2$	$2x$	$-6$

$$5x^2 - 15x + 2x - 6$$

$$5x^2 - 13x - 6$$

Use either of these methods or another method you prefer to rewrite these expressions into standard form.

1.  $(2x + 1)(2x - 3)$
2.  $(4x - 1)(\frac{1}{2}x - 3)$
3.  $(3x - 5)^2$
4.  $(2x + 1)^2$

Tyler likes to use the distributive property to rewrite expressions like these, so his work looks like this.

$$5x(x - 3) + 2(x - 3)$$

$$5x^2 - 15x + 2x - 6$$

$$5x^2 - 13x - 6$$

### 3 Find the Values

#### Student Task Statement

For each question, find the value of  $k$  and  $m$  then determine the value of  $m^2$ .

1.
  - $k > 0$
  - $k^2 = 100$
  - $2km = 40$
2.
  - $k < 0$
  - $k^2 = 9$
  - $2km = 30$
3.
  - $k < 0$
  - $k^2 = 16$
  - $2km = -40$
4.
  - $k > 0$
  - $k^2 = 4$
  - $2km = -28$
5.
  - $k > 0$
  - $k^2 = 49$
  - $2km = 14$
6.
  - $k > 0$
  - $k^2 = 0.25$
  - $2km = 12$