



Rewriting Quadratic Expressions

Let's practice rewriting quadratic expressions.

14.1 Writing Quadratics in Standard Form

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. $k = 3, m = 5$



14.2

Practice Writing Expressions in Standard Form

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

Priya likes to use diagrams to organize her thinking when using the distributive property 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 expressions to organize his thinking when using the distributive property to rewrite expressions like these, so his work looks like this.

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

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

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

14.3 Find the Values

For each question, find the value of k and m then find 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.
 - $k > 0$
 - $k^2 = 0.25$
 - $2km = 12$