## Lesson 14: 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.

* $a=k^{2}$
* $b=2k⋅m$
* $c=m^{2}$
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 $\left(5x+2\right)\left(x−3\right)$ 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 |

$5x^{2}−15x+2x−6$

$5x^{2}−13x−6$

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

$5x\left(x−3\right)+2\left(x−3\right)$

$5x^{2}−15x+2x−6$

$5x^{2}−13x−6$

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

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

### 14.3: Find the Values

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

* + $k>0$
	+ $k^{2}=100$
	+ $2km=40$
	+ $k<0$
	+ $k^{2}=9$
	+ $2km=30$
	+ $k<0$
	+ $k^{2}=16$
	+ $2km=-40$
	+ $k>0$
	+ $k^{2}=4$
	+ $2km=-28$
	+ $k>0$
	+ $k^{2}=49$
	+ $2km=14$
	+ $k>0$
	+ $k^{2}=0.25$
	+ $2km=12$



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