Name: Structures of Expressions | 2.2

# *Ready, Set, Go!*

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## *Ready*

**Topic: Standard form of a quadratic equation**

**The standard form of a quadratic equation is defined as** $y = ax^2 + bx + c, (a \neq 0)$.
**Identify a, b, and c in the following equations.**
**Example: Given** $4x^2 + 7x - 6$, **a = 4, b = 7, and c = -6**

1. $y = 5x^2 + 3x + 6$

*a* = _____
*b* = _____
*c* = _____

2. $y = x^2 - 7x + 3$

*a* = _____
*b* = _____
*c* = _____

3. $y = -2x^2 + 3x$

*a* = _____
*b* = _____
*c* = _____

4. $y = 6x^2 - 5$

*a* = _____
*b* = _____
*c* = _____

5. $y = -3x^2 + 4x$

*a* = _____
*b* = _____
*c* = _____

6. $y = 8x^2 - 5x - 2$

*a* = _____
*b* = _____
*c* = _____

**Multiply and write each product in the form $y = ax^2 + bx + c$. Then identify a, b, and c.**

7. $y = x(x - 4)$

*a* = _____
*b* = _____
*c* = _____

8. $y = (x - 1)(2x - 1)$

*a* = _____
*b* = _____
*c* = _____

9. $y = (3x - 2)(3x + 2)$

*a* = _____
*b* = _____
*c* = _____

10. $y = (x + 6)(x + 6)$

*a* = _____
*b* = _____
*c* = _____

11. $y = (x - 3)^2$

*a* = _____
*b* = _____
*c* = _____

12. $y = -(x + 5)^2$

*a* = _____
*b* = _____
*c* = _____





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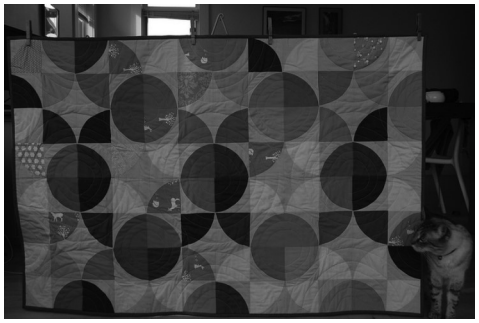
Name: Structures of Expressions | 2.5

## *Ready, Set, Go!*





### *Ready*

Topic: Recognizing quadratic equations.

**Identify whether or not each equation represents a quadratic function. Explain how you knew it was a quadratic.**

1. $x^2 + 13x - 4 = 0$

Quadratic or no?

Justification:

2. $3x^2 + x = 3x^2 - 2$

Quadratic or no?

Justification:

3. $x(4x - 5) = 0$

Quadratic or no?

Justification:

4. $(2x - 7) + 6x = 10$

Quadratic or no?

Justification:

5. $2^x + 6 = 0$

Quadratic or no?

Justification:

6. $32 = 4x^2$

Quadratic or no?

Justification:

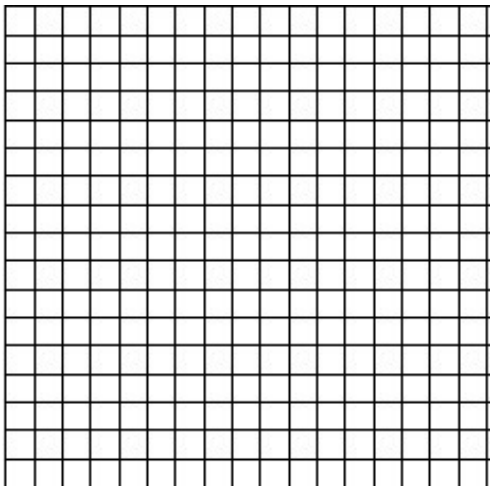
### *Set*

Topic: Changing from standard form of a quadratic to vertex form

**Change the form of each equation to vertex form: $y = a(x - h)^2 + k$. State the vertex and graph the parabola. Show at least 3 accurate points on each side of the line of symmetry.**

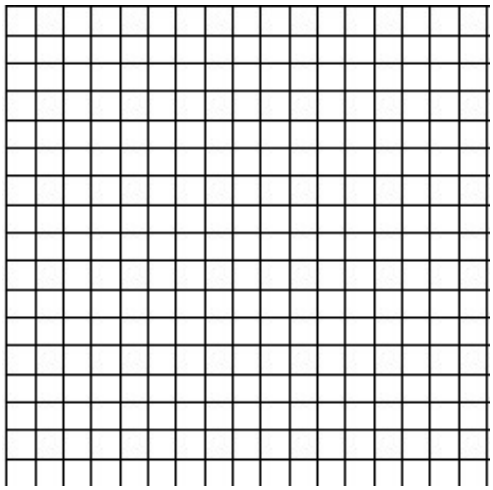
7. $y = x^2 - 4x + 1$

vertex:



8. $y = x^2 + 2x + 5$

vertex:







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