

For #1-5, match the terms with their descriptions.

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|------------------------|--|
| 1. $-\frac{b}{2a}$ | a. The highest or lowest point of a parabola |
| 2. Factors | b. The points on a graph where the parabola crosses the x-axis |
| 3. Vertex | c. The general equation for a quadratic |
| 4. $y = ax^2 + bx + c$ | d. The terms that multiply together to make your quadratic |
| 5. x-intercepts | e. The formula that will give you the x-value of your vertex |

For questions #6-10, use the equation: $y = x^2 - 16x + 48$

6. The equation: will make this shape when I graph it: _____

7. For this equation, $a = \underline{\hspace{2cm}}$ $b = \underline{\hspace{2cm}}$ $c = \underline{\hspace{2cm}}$

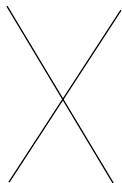
8. The vertex is an ordered pair. The x value of the vertex will be found using this formula: _____

The x-value is: _____ The y-value is: _____ So the vertex is: (,)

9. If I wanted to factor this, I would ask: What numbers multiply to be _____ that add up to _____?

I could use my diamond to help.

The factors of $y = x^2 - 16x + 48$ are:



10. Once I know my factors, I can find my x-intercepts. I do this by setting each factor equal to zero.

1st equation is: _____ = 0

2nd equation is: _____ = 0

My x-intercepts are: $x = \underline{\hspace{2cm}}$ and $x = \underline{\hspace{2cm}}$

For questions #11-15, use the equation: $f(x) = 2x^2 + 4x - 126$

11. The equation will make this shape when I graph it: _____

12. For this equation, $a = \underline{\hspace{2cm}}$ $b = \underline{\hspace{2cm}}$ $c = \underline{\hspace{2cm}}$

13. The vertex is an ordered pair. The x value of the vertex will be found using this formula: _____

The x-value is: _____ The y-value is: _____ So the vertex is: (,)

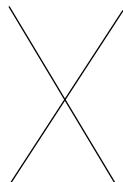
14. If I wanted to factor this, I would ask myself: Is there a GCF I can take out first? YES! The GCF is _____

a. If I take out the GCF, my new equation looks like this:

b. What numbers multiply to be _____ that add up to _____

I could use my diamond to help.

The factors of my equation are:



*Don't forget to include the GCF as one of your factors!!!

15. Once I know my factors, I can find my x-intercepts. I do this by setting each factor equal to zero. Since I am solving for x, it won't make sense to set my GCF equal to zero, because there isn't an x to solve for. So I will just use the factors.

1st equation is: _____ = 0 2nd equation is: _____ = 0

My x-intercepts are: $x = \underline{\hspace{2cm}}$ and $x = \underline{\hspace{2cm}}$

Review:

Vertex of my parabola:

Factored form of my equation:

x-intercepts of my equation: