Bell Work

1. Find the roots for $f(x) = x^2 + 7x - 60.$

Use the function below for #2 and #3.

$$f(x) = 2(x-7)^2 - 12$$

2. What is the vertex of the parabola?

3. Describe the transformation of the parent function.

4. What is the range in interval notation for the quadratic parent function?

Find the roots of this function.

$$f(x) = 24x^2 - 42x - 45$$

$$\frac{24}{3}x^2 - \frac{42}{3}x - \frac{45}{3} = \frac{0}{3}$$

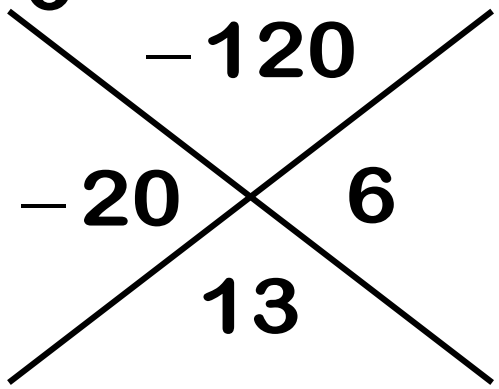
$$8x^2 - 14x - 15 = 0$$

$$(8x^2 - 20x) + (6x - 15) = 0$$

$$4x(2x - 5) + 3(2x - 5) = 0$$

$$(2x - 5)(4x + 3) = 0$$

$$x = \frac{5}{2}, -\frac{3}{4}$$



1. Set the function = 0.
2. Divide by the GCF.
3. Play the X-Game.
   $a \times c$ on top, b on bottom.
   What 2 numbers multiply to get the top and add up to the bottom?
4. Substitute the 2 new numbers for the middle number.
5. Parenthesis around the 1st 2 and 2nd 2 numbers.
6. Factor out a GCF of each set.
7. One answer will be inside and one answer will be outside.
8. Solve.

Find the roots of this function.

$$f(x) = -40x^2 + 36x + 36$$

$$\frac{-40}{-4}x^2 + \frac{36}{-4}x + \frac{36}{-4} = \frac{0}{-4}$$

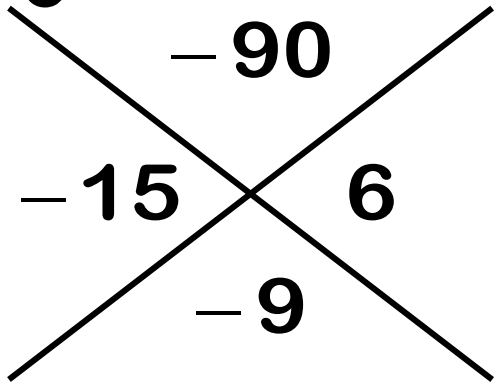
$$10x^2 - 9x - 9 = 0$$

$$(10x^2 - 15x) + (6x - 9) = 0$$

$$5x(2x - 3) + 3(2x - 3) = 0$$

$$(2x - 3)(5x + 3) = 0$$

$$x = \frac{3}{2}, -\frac{5}{3}$$



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Find the roots of this function.

$$f(x) = 42x^2 - 94x + 40$$

$$\frac{42}{2}x^2 - \frac{94}{2}x + \frac{40}{2} = \frac{0}{2}$$

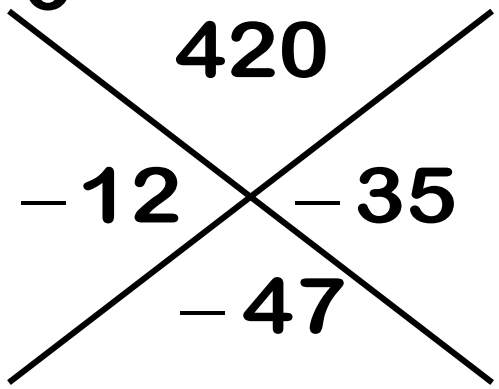
$$21x^2 + 23x - 20 = 0$$

$$(21x^2 - 12x) + (-35x + 20) = 0$$

$$3x(7x - 4) - 5(7x - 4) = 0$$

$$(7x - 4)(3x - 5) = 0$$

$$x = \frac{7}{4}, \frac{3}{5}$$



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Find the roots of this function.

$$f(x) = -180x^2 - 300x - 125$$

$$-\frac{180}{-5}x^2 - \frac{300}{-5}x - \frac{125}{-5} = \frac{0}{-5}$$

$$36x^2 + 60x + 25 = 0$$

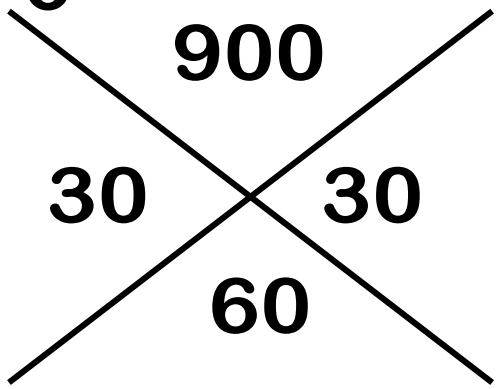
$$(36x^2 + 30x) + (30x + 25) = 0$$

$$6x(6x + 5) + 5(6x + 5) = 0$$

$$(6x + 5)(6x + 5) = 0$$

Only need to write it once.

$$x = -\frac{6}{5}$$



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Solving Quadratics by Factoring with the X-Game

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2. Divide by GCF.
3. Play the X-Game.

   $a \times c$ on top, b on bottom.

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Assignment:

Finding Roots of Quadratic Functions using the X-Game B Worksheet