

# Bellwork Hon Alg 2 Thursday, November 17, 2016

Find the number of x-intercepts of the graph of each Quadratic Function.

1.  $y = 4x^2 + 3x - 7$

2.  $y = 12x^2 - 84x + 147$

3.  $f(x) = -6x^2 + 8x - 11$

4. Find all Real EXACT solutions to this equation:  $8x^2 - 28x + 23 = 0$

5. Find all Real solutions to each equation. Round to the nearest hundredth as needed.

a)  $3x^2 - 9 = 2x$

b)  $5x^2 + 3x = x + 12 + 2x$

c)  $6x^2 - 4x + 3 = 0$

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Answers

Find the number of x-intercepts of the graph of each Quadratic Function.

1.  $y = 4x^2 + 3x - 7$

2.  $y = 12x^2 - 84x + 147$

3.  $f(x) = -6x^2 + 8x - 11$

$b^2 - 4ac = 121$

$b^2 - 4ac = 0$

$b^2 - 4ac = -200$

2 x-int

1 x-int

No x-int

4. Find all Real EXACT solutions to this equation:  $8x^2 - 28x + 23 = 0$

$b^2 - 4ac = 48$

$$x = \frac{28 \pm \sqrt{48}}{16} = \frac{28 \pm \sqrt{16 \cdot 3}}{16} = \frac{28 \pm 4\sqrt{3}}{16} = \frac{7 \pm \sqrt{3}}{4}$$

5. Find all Real solutions to each equation. Round to the nearest hundredth as needed.

a)  $3x^2 - 9 = 2x$

$3x^2 - 2x - 9 = 0$

$b^2 - 4ac = 112$

$$x = \frac{2 \pm \sqrt{112}}{6} = 2.10, -1.43$$

b)  $5x^2 + 3x = x + 12 + 2x$

$5x^2 + 3x = 3x + 12$

$\frac{5x^2}{5} = \frac{12}{5}$

$\sqrt{x^2} = \sqrt{2.4}$

$x = \pm \sqrt{2.4}$

$x = \pm 1.55$

c)  $6x^2 - 4x + 3 = 0$

$b^2 - 4ac = -56$

NO REAL SOLUTION