

# Bellwork Hon Alg 2 Thursday, November 10, 2016

Solve each equation by factoring.

1.  $6x^2 - 29x = 0$

2.  $48x^2 + 40x = 32$

3.  $50x^2 - 98 = 0$

4.  $4x^5 + 9x = 13x^3$

5. Use this Quadratic Function:  $y = 4(3x - 7)(9x + 5)$

a. State the x-intercepts.

b. Give the equation of the Line of Symmetry.

c. State the coordinates of the Vertex.

d. State the y-intercept.

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Answers

1.  $6x^2 - 29x = 0$

$x(6x - 29) = 0$

$x = 0, \frac{29}{6}$

2.  $48x^2 + 40x = 32$

$48x^2 + 40x - 32 = 0$

$8(6x^2 + 5x - 4) = 0$

$8(2x - 1)(3x + 4) = 0$

$x = \frac{1}{2}, -\frac{4}{3}$

3.  $50x^2 - 98 = 0$

$2(25x^2 - 49) = 0$

$2(5x \pm 7) = 0$

$x = \pm \frac{7}{5}$

4.  $4x^5 + 9x = 13x^3$

$4x^5 - 13x^3 + 9x = 0$

$x(4x^4 - 13x^2 + 9) = 0$

$x(4x^2 - 9)(x^2 - 1) = 0$

$x(2x \pm 3)(x \pm 1) = 0$

$x = 0, \pm \frac{3}{2}, \pm \frac{1}{2}$

5. Use this Quadratic Function:  $y = 4(3x - 7)(9x + 5)$

a. State the x-intercepts.

$x\text{-int} = \frac{7}{3}, -\frac{5}{9}$

c. State the coordinates of the Vertex.

$\left(\frac{8}{9}, -\frac{676}{3}\right)$

$4\left(3\left(\frac{8}{9}\right) - 7\right)\left(9\left(\frac{8}{9}\right) + 5\right)$

$4\left(\frac{8}{3} - 7\right)(8 + 5)$   
 $4\left(-\frac{13}{3}\right)(13) = -\frac{676}{3}$

b. Give the equation of the Line of Symmetry.

LOS:  $x = \frac{\frac{7}{3} + -\frac{5}{9}}{2} = \frac{\frac{21}{9} + -\frac{5}{9}}{2} = \frac{16}{9} = \frac{8}{9}$

d. State the y-intercept.

$y\text{-int} = 4(3(0) - 7)(9(0) + 5)$   
 $= 4(-7)(5)$   
 $= -140$