

Algebra 1 Final Exam Review Ch 10 Spring 2014

1. Tell if each parabola opens up or down and then tell if the vertex is a maximum or a minimum.

a) $y = 0.35x^2 + x - 8$ b) $y = -7x^2 + 19$ c) $y = -x^2 + 9x + 15$

2. Put these parabolas in order from widest to narrowest

A $y = -9x^2 + 3x - 7$ B $y = -1.3x^2 - 4x + 8$ C $y = x^2 - 2x - 8$ D $y = 6x^2 + 13$

3. Find the y-intercept of each parabola.

a) $y = 6x^2 - 4x + 11$ b) $y = 3x^2 + 8x$ c) $y = -2x^2 - 16$

4. Find the equation for the Line of Symmetry and the coordinates of the vertex of each parabola.

a) $y = -6x^2 - 48x + 5$ b) $y = x^2 + 12x + 20$

5. This equation has already been factored for you. Find the solutions. $5x(3x - 7)(x + 4) = 0$

6. Solve each quadratic equation by factoring.

a) $3x^2 + 24x = 0$ b) $2x^3 - 6x^2 - 20x = 0$ c) $x^2 + 8x + 16 = 0$

d) $9x^2 - 100 = 0$ e) $6x^2 + 7x - 3 = 0$

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1. a) Opens up, Vertex is a Min b) Opens down, Vertex is a Max

c) Opens down, Vertex is a Max

2. C, B, D, A

3. a) $y - \text{int} = 11$ b) $y - \text{int} = 0$ c) $y - \text{int} = -16$

4. a) LOS: $x = -4$ Vertex $(-4, 101)$ b) LOS: $x = -6$ Vertex: $(-6, -16)$

5. $x = -4, 0, \frac{7}{3}$

6. a) $3x^2 + 24x = 3x(x + 8) = 0$ $x = -8, 0$

b) $2x^3 - 6x^2 - 20x = 2x(x + 2)(x - 5) = 0$ $x = 0, -2, 5$

c) $x^2 + 8x + 16 = (x + 4)(x + 4) = (x + 4)^2 = 0$ $x = -4$

d) $9x^2 - 100 = (3x - 10)(3x + 10) = 0$ $x = \pm \frac{10}{3}$

e) $6x^2 + 7x - 3 = 0 \Rightarrow 6x^2 + 7x - 3 = (2x + 3)(3x - 1) = 0$ $x = -\frac{3}{2}, \frac{1}{3}$