

Aim: Let's Go Over Test # 3

HW #9 → mp2 → 11/30/2011 at 11:45pm.

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10. Solve the equation (5 points)
 $x^2 + 5x + 6 = 0$

Try it:

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

$x+3=0$ $x+2=0$

$x=-3$ $x+2=0$
 $x=-2$

$x^2 - 6x - 5 = 0$

$(x-5)(x-1) = 0$

$x-5=0$ $x-1=0$

$x=5$

$(x-2)(x-3)$

$x^2 - 3x - 2x + 6$
 $x^2 - 5x + 6$

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5. Which is equivalent to $n^2 + n = 30$ (5 points)

a. $(n+6)(n-5) = 0$
 b. $(n-6)(n+5) = 0$
 c. $(n-6)(n-5) = 0$
 d. $(n+6)(n+5) = 0$

Try it:

$x^2 + 4x + 3 = 0$

$(x+3)(x+1) = 0$

$x = -3$ $x = -1$

$n^2 + n = 30$

$n^2 + n - 30 = 0$

$(n+6)(n-5) = 0$

$n+6=0$ $n-5=0$

$n = -6$ $n = 5$

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6. The roots of a quadratic equation are $x = -5$ and $x = 3$. Which of the following are possible factors of the equation? (5 points)

a. $(x-5)$ and $(x+3)$
 b. $(x+5)$ and $(x-3)$
 c. $x = -5$ and $x = 3$
 d. $(x-5)$ and $(x-3)$

Try it:

$x^2 + 5x - 6 = 0$

$(x+6)(x-1) = 0$

$x = -6$ $x = 1$

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

$x = -5$ $x = 3$

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11. Solve each equation (5 points)
 $a^2 - 5a = 0$

Try it:

$x^2 - 3x = 0$

$x(x-3) = 0$

$x = 0$ $x-3 = 0$
 $x = 3$

$a(a-5) = 0$

$a = 0$
 $a = 5$

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7. Solve the quadratic equation. Give exact solutions. If the equation has no solution, so state $3a^2 = 48$

Try it:

$8x^2 = 32$

$x^2 = \frac{32}{8}$

$x^2 = 4$

$x = \pm\sqrt{4}$

$x = +2, -2$

$3a^2 = 48$

$a^2 = \frac{48}{3}$

$a^2 = 16$

$a = \sqrt{16}$

$a = 4, -4$

No Good

$3a^2 = 48$

$a^2 = 48-3$

$3a^2 = 48$

$a^2 = 48 \times 3$

$+3a^2 = 48$

$a^2 = 48+3$

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8. Solve the quadratic equation. Give exact solutions. If the equation has no solution, so state.

$$5x^2 - 6x - 7 = 3x^2 - 6x - 5$$

Try it:
 $x^2 + 35 = 105$

$$5x^2 - 3x^2 - 6x + 6x - 7 + 5 = 0$$

$$2x^2 - 2 = 0 \quad \left. \begin{array}{l} x^2 = 1 \\ x^2 = 2 \\ x^2 = \frac{3}{2} \end{array} \right\} \begin{array}{l} x = 1 \\ x = \sqrt{2} \\ x = +1, -1 \end{array}$$

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9. Solve each quadratic equation. Give solutions rounded to the nearest hundredth, if the equation has no solutions, so state. (5 points)

$$3a^2 = 2a^2 + 2$$

Try it:
 $5x^2 = 3x^2 + 5$

$$3a^2 - 2a^2 = 2$$

$$a^2 = 2$$

$$a = \sqrt{2} \begin{array}{l} +1.41 \\ -1.41 \end{array}$$

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1. In how many points does the graph of $y = (x-3)(x+5)$ intersect the x-axis? (15 points)

$$y = (x-3)(x+5)$$

$$x=3 \quad x=-5$$

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13. Explain the steps to graph a parabola (5 points each)

- 1) Find a, b, c
- 2) Find the axis of symmetry
- 3) Create a table with its center the axis of symmetry.
- 4) Graph

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2. Solve each pair of equation. If there is no solution, so state. (15 points)

$$y = 2x + 3$$

$$y = x^2$$

Two points of intersection. (-1,1) and (3,9)

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3. A parabola opens up with its vertex at the origin. For which equation will the parabola and the line not intersect? (5 points)

- a. $x=2$
- b. $y=2$
- c. $y=4$
- d. $y=-5$

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4. Which equation does not have the same solution as $3x^2 = 6x - 9$? (5 points)

a. $3x^2 - 6x + 9 = 0$
b. $3x^2 - 6x = -9$
c. $3x^2 - 6x - 9 = 0$
d. $x^2 - 2x + 3 = 0$

$3x^2 = 6x - 9$
 $3x^2 - 6x = -9$
 $3x^2 - 6x + 9 = 0$

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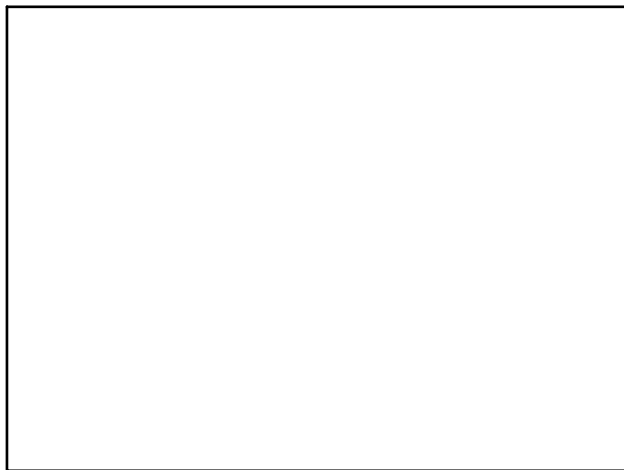
12. Subtract: (5 points)

$-7 - (-21) =$
 $-7 + 21 = 14$
 $-7 - (-21)$

14

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