Alg Name_____

Sem2 - PRACTICE Test5 (Quadratic Equations)

Date_____ Period____

Solve each equation by taking square roots.

1) $x^2 = 25$

2) $x^2 - 3 = 61$

3) $25b^2 = 4$

4) $k^2 = 50$

5) $2b^2 + 2 = 20$

6) $4x^2 + 2 = 3$

7) $x^2 - 9 = 0$

8) $(x + 5)^2 = 25$

Write each equation in STANDARD FORM and determine a, b, and c.

9) $5x^2 + 45x - 30 = -6 - 2x^2$

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

Solve each equation by factoring.

11) $(n - 1)(n - 7) = 0$

12) $(7x + 1)(5x + 3) = 0$

13) $n^2 - 6n + 8 = 0$

14) $p^2 - 4p + 4 = 0$

15) $a^2 - 7a = 0$

16) $n^2 - 9 = 0$

17) $5n^2 + 7n + 2 = 0$

18) $k^2 - 3k - 38 = 2$

19) $b^2 + 7b = -12$

20) $-r^2 - 6 = 5r - 2r^2$

Solve each equation by completing the square.

21) $v^2 - 10v + 18 = 0$

22) $p^2 + 4p - 24 = 0$

23) $2x^2 - 4x - 14 = 0$

24) $4n^2 + 8n - 4 = 4$

Find the discriminant and state the number of solutions.

25) $8v^2 + 5v - 3 = 0$

26) $-3b^2 - 2b - 3 = 0$

27) $4n^2 + 10n = -6$

28) $-9v^2 - 1 = -6v$

Solve each equation with the quadratic formula.

29) $n^2 + 3n - 2 = 0$

30) $-4n^2 - 3n + 5 = 0$

31) $-x^2 + 3x + 4 = 2$

32) $n^2 - 2n - 5 = -3$

33) $-3p^2 + 2p + 2 = 0$

34) $-2x^2 - 3x - 2 = 0$

Answers to Sem2 - PRACTICE Test5 (Quadratic Equations)

1) $\{5, -5\}$

2) $\{8, -8\}$

3) $\left\{\frac{2}{5}, -\frac{2}{5}\right\}$

4) $\{5\sqrt{2}, -5\sqrt{2}\}$

5) $\{3, -3\}$

6) $\left\{\frac{1}{2}, -\frac{1}{2}\right\}$

7) $\{3, -3\}$

8) $\{0, -10\}$

9) $a = 7 \quad b = 45 \quad c = -24$

10) $a = 1 \quad b = -2 \quad c = 0$

11) $\{1, 7\}$

12) $\left\{-\frac{1}{7}, -\frac{3}{5}\right\}$

13) $\{2, 4\}$

14) $\{2\}$

15) $\{7, 0\}$

16) $\{3, -3\}$

17) $\left\{-\frac{2}{5}, -1\right\}$

18) $\{-5, 8\}$

19) $\{-4, -3\}$

20) $\{-1, 6\}$

21) $\{5 + \sqrt{7}, 5 - \sqrt{7}\}$

22) $\{-2 + 2\sqrt{7}, -2 - 2\sqrt{7}\}$

23) $\{1 + 2\sqrt{2}, 1 - 2\sqrt{2}\}$

24) $\{-1 + \sqrt{3}, -1 - \sqrt{3}\}$

25) 121
two real solutions

26) -32
NO SOLUTION or two imaginary solutions

27) 4
two real solutions

28) 0
only one real solution

29) $\left\{\frac{-3 + \sqrt{17}}{2}, \frac{-3 - \sqrt{17}}{2}\right\}$

30) $\left\{\frac{-3 - \sqrt{89}}{8}, \frac{-3 + \sqrt{89}}{8}\right\}$

31) $\left\{\frac{3 - \sqrt{17}}{2}, \frac{3 + \sqrt{17}}{2}\right\}$

32) $\{1 + \sqrt{3}, 1 - \sqrt{3}\}$

33) $\left\{\frac{1 - \sqrt{7}}{3}, \frac{1 + \sqrt{7}}{3}\right\}$

34) No solution.