

## Test 2 Study Guide

Date \_\_\_\_\_ Period \_\_\_\_\_

**Solve each equation by taking square roots.**

1)  $r^2 - 3 = 7$

$\{\sqrt{10}, -\sqrt{10}\}$

2)  $p^2 - 4 = 28$

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

3)  $n^2 + 2 = 18$

$\{4, -4\}$

4)  $-8x^2 = -136$

$\{\sqrt{17}, -\sqrt{17}\}$

5)  $p^2 + 5 = 30$

$\{5, -5\}$

6)  $x^2 + 2 = 6$

$\{2, -2\}$

7)  $4r^2 = 84$

$\{\sqrt{21}, -\sqrt{21}\}$

8)  $10p^2 - 4 = 516$

$\{2\sqrt{13}, -2\sqrt{13}\}$

9)  $7a^2 + 5 = -64$

$\left\{\frac{i\sqrt{483}}{7}, -\frac{i\sqrt{483}}{7}\right\}$

10)  $2a^2 - 3 = 9$

$\{\sqrt{6}, -\sqrt{6}\}$

11)  $6n^2 - 8 = 592$

$\{10, -10\}$

12)  $64x^2 - 10 = 15$

$\left\{\frac{5}{8}, -\frac{5}{8}\right\}$

13)  $36n^2 + 9 = 58$

$\left\{\frac{7}{6}, -\frac{7}{6}\right\}$

14)  $9 - 6n^2 = -381$

$\{\sqrt{65}, -\sqrt{65}\}$

**Solve each equation with the quadratic formula.**

15)  $2r^2 + 5r - 25 = 0$

$\{2.5, -5\}$

16)  $2a^2 + 4a - 6 = 0$

$\{1, -3\}$

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

$\{5, -3\}$

18)  $2b^2 - 5b - 7 = 0$

$\{3.5, -1\}$

19)  $7v^2 + 4 = 6v$

$\left\{ \frac{3 + i\sqrt{19}}{7}, \frac{3 - i\sqrt{19}}{7} \right\}$

20)  $x^2 - 7x = 60$

$\{12, -5\}$

21)  $4v^2 + 3v = -1$

$\left\{ \frac{-3 + i\sqrt{7}}{8}, \frac{-3 - i\sqrt{7}}{8} \right\}$

22)  $3 = 8 - 5a^2 + 3a$

$\left\{ \frac{3 + \sqrt{109}}{10}, \frac{3 - \sqrt{109}}{10} \right\}$

23)  $-13x^2 + x + 7 = -6x^2$

$\left\{ \frac{1 - \sqrt{197}}{14}, \frac{1 + \sqrt{197}}{14} \right\}$

24)  $-10b^2 + 2 = -5b^2 + 6$

$\left\{ -\frac{2i\sqrt{5}}{5}, \frac{2i\sqrt{5}}{5} \right\}$

**Solve each equation by completing the square.**

25)  $n^2 - 8n - 48 = 0$

$\{12, -4\}$

26)  $n^2 + 6n - 10 = 0$

$\{-3 + \sqrt{19}, -3 - \sqrt{19}\}$

27)  $a^2 + 8a - 9 = 0$

$\{1, -9\}$

28)  $n^2 - 4n - 21 = 0$

$\{7, -3\}$

29)  $n^2 + 16n + 50 = 0$

$\{-8 + \sqrt{14}, -8 - \sqrt{14}\}$

30)  $7x^2 - 14x - 36 = 2$

$\left\{ \frac{7 + 3\sqrt{35}}{7}, \frac{7 - 3\sqrt{35}}{7} \right\}$

31)  $8p^2 + 16p + 39 = -9$

$\{-1 + i\sqrt{5}, -1 - i\sqrt{5}\}$

32)  $8v^2 + 16v + 75 = -7$

$\left\{ \frac{-2 + i\sqrt{37}}{2}, \frac{-2 - i\sqrt{37}}{2} \right\}$

33)  $7m^2 + 14m + 94 = 3$

$\{-1 + 2i\sqrt{3}, -1 - 2i\sqrt{3}\}$

34)  $10n^2 + 20n - 32 = -2$

$\{1, -3\}$