Secondary Math 2   Name_____ ID: 2

Unit 4 Review part 2   Date_____ Period____

Solve each equation by taking square roots.

1) $n^2 + 7 = 101$

$\left\{\sqrt{94}, -\sqrt{94}\right\}$

2) $-8x^2 = 48$

$\left\{i\sqrt{6}, -i\sqrt{6}\right\}$

3) $p^2 - 8 = 84$

$\left\{2\sqrt{23}, -2\sqrt{23}\right\}$

4) $-7v^2 = -658$

$\left\{\sqrt{94}, -\sqrt{94}\right\}$

Solve each equation by factoring.

5) $x^2 - 16 = 6x$

$\left\{8, -2\right\}$

6) $x^2 + 4 = -5x$

$\left\{-1, -4\right\}$

7) $x^2 + 12 = 8x$

$\left\{6, 2\right\}$

8) $n^2 + 24 = -10n$

$\left\{-4, -6\right\}$

9) $n^2 - n = 6$

$\left\{3, -2\right\}$

10) $n^2 = -18 + 9n$

$\left\{3, 6\right\}$

Solve each equation by completing the square.

11) $x^2 - 14x + 96 = 4$

$\left\{7 + i\sqrt{43}, 7 - i\sqrt{43}\right\}$

12) $v^2 + 18v + 91 = 2$

$\left\{-9 + 2i\sqrt{2}, -9 - 2i\sqrt{2}\right\}$

13) $n^2 - 16n + 82 = -4$

$$\{8 + i\sqrt{22}, 8 - i\sqrt{22}\}$$

14) $n^2 - 6n + 80 = -4$

$$\{3 + 5i\sqrt{3}, 3 - 5i\sqrt{3}\}$$

15) $n^2 + 10n - 74 = -3$

$$\{-5 + 4\sqrt{6}, -5 - 4\sqrt{6}\}$$

16) $n^2 + 2n + 35 = 5$

$$\{-1 + i\sqrt{29}, -1 - i\sqrt{29}\}$$

Solve each equation with the quadratic formula.

17) $v^2 - 11v = -22$

$$\left\{\frac{11 + \sqrt{33}}{2}, \frac{11 - \sqrt{33}}{2}\right\}$$

18) $9n^2 - 6 = -2n$

$$\left\{\frac{-1 + \sqrt{55}}{9}, \frac{-1 - \sqrt{55}}{9}\right\}$$

19) $6x^2 = -11 - 8x$

$$\left\{\frac{-4 + 5i\sqrt{2}}{6}, \frac{-4 - 5i\sqrt{2}}{6}\right\}$$

20) $v^2 = 11v + 10$

$$\left\{\frac{11 + \sqrt{161}}{2}, \frac{11 - \sqrt{161}}{2}\right\}$$

21) $7v^2 + 8v = 8$

$$\left\{\frac{-4 + 6\sqrt{2}}{7}, \frac{-4 - 6\sqrt{2}}{7}\right\}$$

22) $10x^2 - 19 = 10x$

$$\left\{\frac{5 + \sqrt{215}}{10}, \frac{5 - \sqrt{215}}{10}\right\}$$

For each question below, say which strategy you would use to solve and why. DO NOT ACTUALLY SOLVE.

23) $a^2 = 1$

Take a $\sqrt{}$
Only one term with variable & variable is squared

24) $n^2 + 16n = -64$

$n^2 + 16n + 64 = 0$
Factoring
Two terms with variable & it can factor

25) $b^2 = -11b - 30$

$b^2 + 11b + 30 = 0$
Factoring
Two terms with variable & it can factor

26) $n^2 + 8n - 83 = 6$

$n^2 + 8n - 89 = 0$
Complete the square
Doesn't factor, middle term is even & first coefficient is 1

27) $x^2 - 16x - 32 = 6$

$x^2 - 16x - 38 = 0$
Complete the square
Doesn't factor, middle term is even & first coefficient is 1

28) $10n^2 = -6n - 5$

$10n^2 + 6n + 5 = 0$
Quadratic Formula
Doesn't factor, first coefficient is not 1

29) $12a^2 + 12 = -3a$

$12a^2 + 3a + 12 = 0$
Quadratic Formula
Doesn't factor, first coefficient is not 1 & middle term is odd

Solve each equation using whatever method you'd like.

30) $7p^2 - 21 = -5p$

$$\left\{ \frac{-5 + \sqrt{613}}{14}, \frac{-5 - \sqrt{613}}{14} \right\}$$

31) $3n^2 + 8n = -9$

$$\left\{ \frac{-4 + i\sqrt{11}}{3}, \frac{-4 - i\sqrt{11}}{3} \right\}$$

32) $r^2 + 8r = -12$

$\{-6, -2\}$

33) $x^2 = 6x - 9$

$\{3\}$

34) $b^2 - 10b + 17 = 10$

$\{5 + 3\sqrt{2}, 5 - 3\sqrt{2}\}$

35) $k^2 + 2k - 29 = -5$

$\{4, -6\}$