

Unit 3B Test Repair packet

Date _____ Period _____

Solve each equation by factoring.

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

 $\{-1, 2\}$

2) $n^2 - 14n + 48 = 0$

 $\{8, 6\}$

3) $x^2 - 8x + 15 = 0$

 $\{5, 3\}$

4) $n^2 + 4n - 12 = 0$

 $\{2, -6\}$

5) $x^2 - 4x - 9 = -4$

 $\{5, -1\}$

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

 $\{-3, -1\}$

7) $x^2 - 10x + 21 = 5$

 $\{8, 2\}$

8) $a^2 + 4a - 5 = 7$

 $\{-6, 2\}$

9) $5p^2 + 36p - 32 = 0$

$$\left\{ \frac{4}{5}, -8 \right\}$$

10) $5x^2 - 9x + 4 = 0$

$$\left\{ \frac{4}{5}, 1 \right\}$$

11) $2b^2 + 15b + 28 = 0$

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

12) $3n^2 - 16n - 35 = 0$

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

13) $7k^2 - 48k - 59 = 5$

$$\left\{ -\frac{8}{7}, 8 \right\}$$

14) $15x^2 + 23x + 6 = 2$

$$\left\{ -\frac{4}{3}, -\frac{1}{5} \right\}$$

15) $3a^2 + 10a + 8 = 5$

$$\left\{ -\frac{1}{3}, -3 \right\}$$

16) $5m^2 + 42m + 42 = -7$

$$\left\{ -\frac{7}{5}, -7 \right\}$$

Solve each equation with the quadratic formula.

17) $4m^2 - 2m - 2 = 0$

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

18) $2n^2 - 13 = 0$

$$\left\{ \frac{\sqrt{26}}{2}, -\frac{\sqrt{26}}{2} \right\}$$

$$19) 11n^2 - 3n - 16 = 0$$

$$\left\{ \frac{3 + \sqrt{713}}{22}, \frac{3 - \sqrt{713}}{22} \right\}$$

$$20) 2p^2 - 11p + 5 = 0$$

$$\left\{ 5, \frac{1}{2} \right\}$$

$$21) 7x^2 - 7x - 33 = -11$$

$$\left\{ \frac{7 + \sqrt{665}}{14}, \frac{7 - \sqrt{665}}{14} \right\}$$

$$22) x^2 - 9x - 105 = 7$$

$$\{16, -7\}$$

$$23) 8v^2 + 4 = 9$$

$$\left\{ \frac{\sqrt{10}}{4}, -\frac{\sqrt{10}}{4} \right\}$$

$$24) 3n^2 + 2n + 5 = 10$$

$$\left\{ 1, -1\frac{2}{3} \right\}$$

$$25) m^2 + 6m - 15 = 0$$

$$\{-3 + 2\sqrt{6}, -3 - 2\sqrt{6}\}$$

$$26) 2m^2 + 10m - 3 = 0$$

$$\left\{ \frac{-5 + \sqrt{31}}{2}, \frac{-5 - \sqrt{31}}{2} \right\}$$

$$27) 3r^2 - 12r + 21 = 12$$

$$\{3, 1\}$$

$$28) 5v^2 + 6v - 97 = 7$$

$$\left\{ 4, -5\frac{1}{5} \right\}$$

Solve by using the quadratic formula after getting the equation into standard form

29) $2(x - 5)^2 - 4 = 12$

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

30) $3(x + 2)^2 + 1 = 103$

$-2 + \sqrt{34}, -2 - \sqrt{34}$

31) $-5(x - 7)^2 - 2 = -52$

$7 + \sqrt{10}, 7 - \sqrt{10}$

32) $3(x + 4)^2 - 3 = 33$

$-4 + 2\sqrt{7}, -4 - 2\sqrt{7}$

A ball was thrown from the roof of a building and it was modeled by the following equation $h(t) = -16t^2 + 48t + 14$, where h is height in feet and t is time in seconds

33) How high the roof the ball is thrown from?

34) How high is the ball after 3 seconds?

35) How long will it take for the ball to hit the ground?