

Week 6 Practice - Ch. 2-6 The Quadratic Formula

Date _____ Period _____

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Find the discriminant of each quadratic equation then state the number and type of solutions.

1) $12x^2 - 6x + 3 = 4x^2$

2) $5v^2 = 8v - 2 - 3v^2$

3) $-7m^2 + 6m = 9 - 6m^2$

4) $9n^2 + 7n - 5 = -3$

5) $-9a^2 - 14a + 6 = -5a + 8 - 5a^2$

6) $10b^2 + 3b + 11 = 9b + 10$

7) $x^2 + 6x = -9$

8) $2x^2 - 5 = -3x$

9) $n^2 = -2n - 1$

10) $8n^2 + 8n + 20 = 10 + 5n$

11) $-5x^2 + 10 = 10 + x$

12) $7r^2 + 3r + 11 = 2$

Solve each equation with the quadratic formula.

13) $11b^2 + 2b + 5 = 3b$

14) $-3v^2 + 17 = -10$

15) $6a^2 - a = 4 + 10a^2$

16) $-5x^2 + 9x - 1 = 5x^2 - 2x + 7$

17) $-x^2 + 8x + 7 = -5x^2$

18) $-3m^2 + m - 10 = -8 - 6m$

19) $-7v^2 + 2v = 7v + 5$

20) $6r^2 - 5r = 69$

21) $-5x^2 - 10x + 22 = 7$

22) $-5b^2 - 9b = -9b^2 + 7 + 2b$

23) $-10k^2 + 17k - 7 = 9k$

24) $-5n^2 = -2 - 3n$

25) $4k^2 + 6k - 13 = 12k$

26) $2r^2 - 2r - 31 = 9$

27) $6x^2 + 23 = 11$

28) $-4n^2 - 11n + 5 = -6n^2$

29) $-5n^2 + 12n - 4 = -11n^2$

30) $4a^2 + 5a + 8 = 3a^2$

31) $10p^2 + 7p - 23 = -6 + 11p$

32) $12x^2 = -3 - 4x$

33) $11n^2 - 2n + 9 = 4$

34) $13x^2 = -15 + 12x^2 - 10x$

35) $-12n^2 + 2 = -3$

36) $-10p^2 - 11 = 11p$

37) $-22 = x^2 + 10x$

38) $13b^2 + b - 124 = -4 + 11b^2$

Answers to Week 6 Practice - Ch. 2-6 The Quadratic Formula (ID: 1)

- 1) -60 ; two imaginary solutions 2) 0 ; one real solution 3) 0 ; one real solution
 4) 121 ; two real solutions 5) 49 ; two real solutions 6) -4 ; two imaginary solutions
 7) 0 ; one real solution 8) 49 ; two real solutions 9) 0 ; one real solution
 10) -311 ; two imaginary solutions 11) 1 ; two real solutions 12) -243 ; two imaginary solutions
 13) $\left\{ \frac{1+i\sqrt{219}}{22}, \frac{1-i\sqrt{219}}{22} \right\}$ 14) $\{-3, 3\}$ 15) $\left\{ \frac{-1-3i\sqrt{7}}{8}, \frac{-1+3i\sqrt{7}}{8} \right\}$
 16) $\left\{ \frac{11-i\sqrt{199}}{20}, \frac{11+i\sqrt{199}}{20} \right\}$ 17) $\left\{ \frac{-2+i\sqrt{3}}{2}, \frac{-2-i\sqrt{3}}{2} \right\}$ 18) $\left\{ \frac{1}{3}, 2 \right\}$
 19) $\left\{ \frac{-5-i\sqrt{115}}{14}, \frac{-5+i\sqrt{115}}{14} \right\}$ 20) $\left\{ \frac{23}{6}, -3 \right\}$ 21) $\{-3, 1\}$
 22) $\left\{ \frac{11+\sqrt{233}}{8}, \frac{11-\sqrt{233}}{8} \right\}$ 23) $\left\{ \frac{4-3i\sqrt{6}}{10}, \frac{4+3i\sqrt{6}}{10} \right\}$ 24) $\left\{ -\frac{2}{5}, 1 \right\}$
 25) $\left\{ \frac{3+\sqrt{61}}{4}, \frac{3-\sqrt{61}}{4} \right\}$ 26) $\{5, -4\}$ 27) $\{i\sqrt{2}, -i\sqrt{2}\}$
 28) $\left\{ 5, \frac{1}{2} \right\}$ 29) $\left\{ \frac{-3+\sqrt{15}}{3}, \frac{-3-\sqrt{15}}{3} \right\}$ 30) $\left\{ \frac{-5+i\sqrt{7}}{2}, \frac{-5-i\sqrt{7}}{2} \right\}$
 31) $\left\{ \frac{2+\sqrt{174}}{10}, \frac{2-\sqrt{174}}{10} \right\}$ 32) $\left\{ \frac{-1+2i\sqrt{2}}{6}, \frac{-1-2i\sqrt{2}}{6} \right\}$ 33) $\left\{ \frac{1+3i\sqrt{6}}{11}, \frac{1-3i\sqrt{6}}{11} \right\}$
 34) $\{-5+\sqrt{10}, -5-\sqrt{10}\}$ 35) $\left\{ -\frac{\sqrt{15}}{6}, \frac{\sqrt{15}}{6} \right\}$
 36) $\left\{ \frac{-11-i\sqrt{319}}{20}, \frac{-11+i\sqrt{319}}{20} \right\}$ 37) $\{-5-\sqrt{3}, -5+\sqrt{3}\}$
 38) $\left\{ \frac{15}{2}, -8 \right\}$