



Unit 10  
Review Notes

## Essential Question:

## Questions:

## Notes:

**Multiple Choice** In Exercises 1–4, evaluate the expression, rounding to the nearest hundredth when necessary.

1.  $\pm\sqrt{0.81}$

- A 9, -9     B -0.9     C 0.9  
 D 0.9, -0.9     E No square roots

2.  $\sqrt{-25}$

- A 5, -5     B 0     C -5  
 D -12.5     E No square roots

3.  $-\sqrt{0.3}$

- A -0.15     B 0     C -5  
 D -0.55     E No square roots

4.  $\pm\sqrt{1.25}$

- A 1.11     B  $\pm 1.11$      C 1.2  
 D  $\pm 1.12$      E No square roots

5. **Multiple Choice** Evaluate  $\sqrt{b^2 - 4ac}$  when  $a = 2$ ,  $b = -3$ , and  $c = 4$ .

- A 4.8     B -4.8     C 5.3  
 D -5.3     E Undefined

6. **Multiple Choice** Evaluate  $\sqrt{b^2 - 4ac}$  when  $a = 2$ ,  $b = -2$ , and  $c = -2$ .

- A 4.47     B -3.46     C 3.16  
 D 2.89     E Undefined

7. **Multiple Choice** Evaluate  $\sqrt{b^2 - 4ac}$  when  $a = 5$ ,  $b = -6$ , and  $c = -3$ .

- A 9.0     B 9.8     C 8.8  
 D 9.4     E Undefined

Show Work  
Here

## Summary:

**Questions:**

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8. **Multiple Choice** An object is dropped from a height of 350 feet. To the nearest hundredth of a second, about how long does it take the object to hit the ground? Assume there is no air resistance.

- (A) 5.92 sec    (B) 18.28 sec  
 (C) 4.68 sec    (D) 1.91 sec  
 (E) 4.83 sec

9. **Multiple Choice** Which one of the following is the simplified form of  $\sqrt{192}$ ?

- (A)  $3\sqrt{4}$     (B)  $3\sqrt{8}$     (C)  $4\sqrt{3}$   
 (D)  $8\sqrt{3}$     (E)  $4\sqrt{12}$

10. **Multiple Choice** Which one of the following is the simplified form of  $\frac{1}{3}\sqrt{450}$ ?

- (A)  $\frac{5}{3}\sqrt{18}$     (B)  $\frac{2}{3}\sqrt{15}$     (C)  $5\sqrt{2}$   
 (D)  $12\sqrt{2}$     (E)  $3\sqrt{50}$

11. **Multiple Choice** Which one of the following is the simplified form of  $-5\sqrt{20} \cdot \frac{\sqrt{10}}{\sqrt{30}}$ ?

- (A)  $-15\sqrt{15}$     (B)  $-5\sqrt{\frac{20}{3}}$   
 (C)  $-\frac{5}{3}\sqrt{20}$     (D)  $-15\sqrt{60}$   
 (E)  $-\frac{10}{3}\sqrt{15}$

12. **Multiple Choice** Which one of the following is the simplified form of  $\frac{\sqrt{30}\sqrt{18}}{3\sqrt{5}}$ ?

- (A)  $2\sqrt{3}$     (B)  $\frac{2\sqrt{15}}{3}$     (C) 6  
 (D)  $6\sqrt{5}$     (E)  $2\sqrt{5}$

13. **Multiple Choice** Solve  $7x^2 - 9 = 16$ , writing the answer as a simplified radical expression.

- (A)  $\pm 3.57$     (B)  $\pm 7\sqrt{5}$     (C)  $\pm \frac{5}{\sqrt{7}}$   
 (D)  $\pm \frac{5\sqrt{7}}{7}$     (E)  $\pm \frac{7\sqrt{5}}{5}$

**Summary:**

**Questions:****Notes:**Show Work

14. **Multiple Choice** Choose the correct values of  $a$ ,  $b$ , and  $c$  in the equation  $5x^2 - x + 6 = 0$ .

- (A)  $a = 5, b = 1, c = 6$   
(B)  $a = -5, b = -1, c = -6$   
(C)  $a = 5, b = 0, c = 6$   
(D)  $a = 5, b = -1, c = 0$   
(E)  $a = 5, b = -1, c = 6$

15. **Multiple Choice** Which of the following is a solution of  $2x^2 - 3x - 5 = 0$ ?

- (A) 1            (B)  $-\frac{5}{2}$             (C)  $\frac{5}{2}$   
(D)  $\frac{2}{5}$             (E) 2

16. **Multiple Choice** Which of the following is a solution of  $6x^2 - 7x - 5 = 0$ ?

- (A)  $\frac{1}{2}$             (B)  $\frac{5}{3}$             (C) -2  
(D)  $-\frac{3}{5}$             (E) -1

17. **Multiple Choice** Which of the following is a solution of  $7x^2 + 5x + 8 = 10$ ?

- (A)  $\frac{2}{7}$             (B) 1            (C)  $\frac{7}{2}$   
(D)  $-\frac{2}{7}$             (E)  $\frac{3}{7}$

18. **Multiple Choice** You drop a rock off a bridge 30 feet above the ground into a stream. How long does it take the rock to hit the water?

- (A) 1.45 sec            (B) 1.88 sec  
(C) 1.50 sec            (D) 2.10 sec  
(E) 1.37 sec

19. **Multiple Choice** An eagle circling a field at a height of 250 feet sees a rabbit below. The eagle dives at an initial speed of 110 feet per second. Estimate the time the rabbit has to escape.

- (A) 1.7 sec            (B) 1.8 sec  
(C) 1.6 sec            (D) 1.9 sec  
(E) 2.0 sec

**Summary:**

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You guessed it!  
Show work

20. **Multiple Choice** Which of the following is one of the solutions of the equation  $(x - 3)(x + 8) = 0$ ?

- (A) 8                      (B) -3                      (C) 0  
(D)  $\frac{3}{8}$                       (E) 3

21. **Multiple Choice** Choose the solutions of the equation  $(4x - 3)(x + 1) = 0$ .

- (A)  $1, -\frac{3}{4}$                       (B)  $-1, \frac{3}{4}$                       (C)  $1, -\frac{4}{3}$   
(D)  $1, \frac{4}{3}$                       (E)  $-1, \frac{4}{3}$

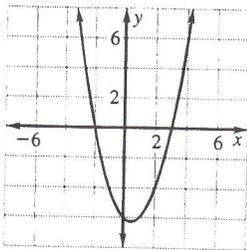
22. **Multiple Choice** Which of the following are solutions of the equation  $(2x - 5)^2 = 0$ ?

- (A)  $\frac{5}{2}$                       (B)  $\frac{5}{2}, -\frac{5}{2}$                       (C)  $\frac{2}{5}$   
(D)  $\frac{2}{5}, -\frac{2}{5}$                       (E) 5

23. **Multiple Choice** Choose the solutions of the equation  $(3x - 1)(x + 6)(2x + 7) = 0$ .

- (A)  $\frac{1}{3}, 6, \frac{7}{2}$                       (B) 3, -6, -7  
(C)  $\frac{1}{3}, -6, -\frac{7}{2}$                       (D)  $-\frac{1}{3}, 6, \frac{7}{2}$   
(E) 3, -6,  $-\frac{2}{7}$

24. **Multiple Choice** Choose the equation whose graph is shown.



- (A)  $y = (x + 2)(x + 3)$   
(B)  $y = (x - 2)(x + 3)$   
(C)  $y = (x - 3)(x + 2)$   
(D)  $y = (x - 3)^2$   
(E)  $y = (x - 3)(x - 2)$

Summary:

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25. **Multiple Choice** Which of the following is a solution of  $\sqrt{x} - 5 = 10$ ?

- (A) 15      (B) 30      (C) 5.5  
(D) 225      (E) 230

26. **Multiple Choice** Which of the following is a solution of  $\sqrt{2x + 3} - 3 = 8$ ?

- (A) 118      (B) 62      (C) 59  
(D) 32      (E) 31

27. **Multiple Choice** Which of the following is a solution of  $3 - \sqrt{2x - 1} = 5$ ?

- (A)  $\frac{2}{5}$       (B)  $\frac{5}{2}$       (C)  $\frac{3}{5}$   
(D)  $\frac{5}{3}$       (E)  $\frac{3}{2}$

28. **Multiple Choice** Which of the following is a solution of  $x = \sqrt{4x + 32}$ ?

- (A) 8      (B) 4      (C) -4  
(D) 8, 4      (E) 8, -4

29. **Multiple Choice** Which of the following is a solution of  $x = \sqrt{2x + 48}$ ?

- (A) 6      (B) 8      (C) -24  
(D) -6      (E) -8

30. **Multiple Choice** Solve  $x^2 - 12x - 7 = 0$  by completing the square.

- (A)  $7 \pm \sqrt{43}$       (B)  $6 \pm \sqrt{43}$   
(C)  $6 \pm \sqrt{42}$       (D)  $7 \pm \sqrt{42}$   
(E)  $12 \pm \sqrt{43}$

31. **Multiple Choice** Solve  $15x - 45x^2 = 0$  using the most appropriate method.

- (A)  $0, -\frac{1}{3}$       (B)  $0, 3$       (C)  $0, \frac{1}{3}$   
(D)  $1, \frac{1}{3}$       (E)  $0, -3$

32. **Multiple Choice** Solve the equation  $3x^2 + 13x - 10 = 0$  using the most appropriate method.

- (A)  $-\frac{2}{3}, 5$       (B)  $-5, \frac{2}{3}$       (C)  $-5, \frac{3}{2}$   
(D)  $10, \frac{5}{3}$       (E)  $-10, \frac{5}{3}$

You know what to do!

**Summary:**