Radical functions and equations worksheet – Grade 11

Grade 11 · Mixed level · 20 questions · **Version X8018**

Name: _____ Date: _____ Score: ___ / 20

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Write it like (−3, 5).

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1. What is the range of $y = \sqrt{x - 3} - 5$?
   A. y ≥ -5 **B.** y ≤ -5 **C.** y ≥ 3 **D.** all real numbers

2. Solve: $\sqrt{x} = 9$
   Answer: _____

3. Find the starting point of $y = \sqrt{x + 1} + 5$.
   Answer: _____

4. What is the starting point of $y = \sqrt{x - 3} + 1$?
   Answer: _____

5. Find the domain of $y = \sqrt{x + 4}$.
   A. x ≥ -4 **B.** x ≤ -4 **C.** x ≥ 4 **D.** all real numbers

6. Find the range of $y = \sqrt{x + 4} + 6$.
   A. y ≥ 6 **B.** y ≤ 6 **C.** y ≥ -4 **D.** all real numbers

7. Work out the range of $y = \sqrt{x + 6} + 6$.
   A. y ≥ 6 **B.** y ≤ 6 **C.** y ≥ -6 **D.** all real numbers

8. Solve for x: $\sqrt{x - 3} = 3$
   Answer: _____

9. Solve: $\sqrt{x - 6} = 6$
   Answer: _____

10. The time to fall d metres is $t = \sqrt{\frac{d}{4.9}}$. How long does a fall of 122.5 m take, in seconds?
    Answer: _____ s

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11. What is the inverse of $y = \sqrt{x}$ evaluated at x = 9?

    Answer: _____

12. Find the inverse of $y = \sqrt{x}$ evaluated at x = 6.

    Answer: _____

13. Work out the inverse of $y = \sqrt{x}$ evaluated at x = 8.

    Answer: _____

14. Find the inverse of $y = \sqrt{x}$ evaluated at x = 4.

    Answer: _____

15. Solve for x: $\sqrt{x + 64} = -3$.

    A. x = -55 **B.** x = 0 **C.** x = 9 **D.** No solution

16. Solve: $\sqrt{x + 16} = -3$.

    A. x = 9 **B.** x = 0 **C.** No solution **D.** x = -7

17. A satellite's speed is $v = \sqrt{\frac{k}{r}}$. If r is multiplied by 16, by what fraction is v multiplied? Write it as a fraction.

    Answer: _____

18. Solve: $\sqrt{x + 13} = x - 1$. Reject any false solution.

    Answer: _____

19. A pendulum's period is $T = 2\sqrt{L}$. By how many times does L grow if T is multiplied by 2?

    Answer: _____

20. A pendulum's period is $T = 2\sqrt{L}$. By how many times does L grow if T is multiplied by 5?

    Answer: _____

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Answer key · Version X8018

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1. **A (y ≥ -5)**
2. **81**
3. **(-1, 5)**
4. **(3, 1)**
5. **A (x ≥ -4)**
6. **A (y ≥ 6)**
7. **A (y ≥ 6)**
8. **12**
9. **42**
10. **5**
11. **81**
12. **36**
13. **64**
14. **16**
15. **D (No solution)**
16. **C (No solution)**
17. **1/4**
18. **4**
19. **4**
20. **25**

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