

Brett Robbins Academic Consulting

Math 30-1 Practice Test

Radical Functions

10 Questions

Original practice questions written to the Alberta curriculum, in the style of past diploma examinations. Work through each question, then check your answers with the key at the end.

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, contact Brett for clarification.

Question 1

The domain and range of the function $y = \sqrt{x-4} + 2$ are

A) Domain : $x \geq 4$

Range : $y \geq 2$

B) Domain : $x \geq 2$

Range : $y \geq 4$

C) Domain : $x \geq -4$

Range : $y \geq 2$

D) Domain : $x \geq 4$

Range : $y \geq 0$

Question 2

The starting point (endpoint) of the graph of $y = -2\sqrt{x+3} - 5$ is

A) $(3, -5)$

B) $(-3, -5)$

C) $(-3, 5)$

D) $(3, 5)$

Question 3

The solution to the equation $\sqrt{x+7} = 4$ is

A) 3

B) 23

C) 9

D) 11

Question 4

The graph of $y = \sqrt{x - 5} + 1$ is the graph of $y = \sqrt{x}$ translated

- A) 5 units to the right and 1 unit up
- B) 5 units to the left and 1 unit up
- C) 5 units to the right and 1 unit down
- D) 5 units to the left and 1 unit down

Question 5

The solution to the equation $\sqrt{3x + 1} = 5$ is

Question 6

The graph of $y = f(x)$, where $f(x) = x - 3$, is transformed into the graph of $y = \sqrt{f(x)}$. The invariant points of this transformation occur at the x -values

- | | |
|------------|------------------|
| A) 3 and 4 | B) 0 and 1 |
| C) 3 only | D) -3 and -4 |

Question 7

The solution to the equation $\sqrt{2x - 1} = x - 2$ is

- A) $x = 1$ and $x = 5$
- B) $x = 5$
- C) $x = 1$
- D) No solution

Question 8

The domain of the function $y = \sqrt{6 - 3x}$ is

A) $x \geq -2$

B) $x \geq 2$

C) $x \leq 2$

D) $x \leq -2$

Question 9

The solution to the equation $\sqrt{x + 6} = \sqrt{3x - 2}$ is

A) 2

B) -4

C) 6

D) 4

Question 10

The equation $\sqrt{5x - 4} = x$ has two solutions.

The smaller of the two solutions is

Answer Key

- | | | |
|------|------|-------|
| 1. A | 5. 8 | 9. D |
| 2. B | 6. A | 10. 1 |
| 3. C | 7. B | |
| 4. A | 8. C | |

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