ALBERTA MATH 20-1 · UNIT 4 · 25 QUESTIONS

# Radicals — Practice Test

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

**1** The simplified form of $\sqrt{72}$ is

- A $6\sqrt{2}$
- B $3\sqrt{6}$
- C $12\sqrt{2}$
- D $\sqrt{70}$

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**2** Written as an entire radical, $4\sqrt{3}$ is equal to

- A $\sqrt{12}$
- B $\sqrt{48}$
- C $\sqrt{36}$
- D $\sqrt{144}$

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**3** The simplified form of $\sqrt{12} + \sqrt{27}$ is

- A $\sqrt{39}$
- B $5\sqrt{6}$
- C $5\sqrt{3}$
- D $6\sqrt{3}$

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**4** The graph shown is a square root function. The restriction on x is

- A $x \geq 0$
- B $x \leq 3$
- C $x > 3$
- D $x \geq 3$

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5 **When $\sqrt{200}$ is written in simplest form as $a\sqrt{b}$, where a and b are integers, the value of a + b is**

ANSWER _____

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6 **The simplified form of $\sqrt{10} \cdot \sqrt{15}$ is**

A $5\sqrt{6}$

B $6\sqrt{5}$

C $5\sqrt{30}$

D 15

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**7** The expression $3\sqrt{20} - 2\sqrt{45} + \sqrt{5}$ simplifies to

A $7\sqrt{5}$

B $\sqrt{5}$

C $0$

D $5\sqrt{5}$

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**8** When $\frac{7}{\sqrt{5}}$ is rationalized, the result is

A $7\sqrt{5}$

B $\frac{\sqrt{35}}{5}$

C $\frac{7\sqrt{5}}{5}$

D $\frac{7}{5}$

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**9** The simplified form of $\sqrt[3]{54}$ is

A $2\sqrt[3]{3}$

B $3\sqrt[3]{6}$

C $9\sqrt[3]{2}$

D $3\sqrt[3]{2}$

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**10** The value of x that satisfies $\sqrt{x + 7} = 5$ is

ANSWER _____

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**11** The product $(2\sqrt{3})(3\sqrt{6})$, in simplest form, is

A $18\sqrt{2}$

B $36$

C $6\sqrt{6}$

D $18\sqrt{3}$

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**12** The expanded form of $(\sqrt{5} + 2)(\sqrt{5} - 3)$ is

A $-1 + \sqrt{5}$

B $-1 - \sqrt{5}$

C $1 - \sqrt{5}$

D $-11 - \sqrt{5}$

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**13** When the denominator of $\frac{4}{\sqrt{7} - 2}$ is rationalized, the result is

A $4\sqrt{7} + 2$

B $\frac{\sqrt{7} + 2}{3}$

C $\frac{4(\sqrt{7} + 2)}{3}$

D $\frac{4(\sqrt{7} - 2)}{3}$

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**14** The equation $\sqrt{3x - 2} = x - 2$ has one extraneous root. The value of the valid solution is

ANSWER _____

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**15** For $x \geq 0$, the simplified form of $\sqrt{50x^3}$ is

- A $25x\sqrt{2x}$
- B $5x\sqrt{2x}$
- C $5x^2\sqrt{2x}$
- D $10x\sqrt{x}$

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**16** The value of $\sqrt[3]{16} \cdot \sqrt[3]{4}$ is

- A 4
- B $2\sqrt[3]{4}$
- C 8
- D 64

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17 **The value of x in the equation $\sqrt{x} + 6 = x$ is**

ANSWER _____

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18 **When the equation $\sqrt{x + 2} = x$ is solved by squaring, one value obtained is extraneous. The extraneous value is**

A 2

B -1

C Both 2 and -1

D Neither 2 nor -1

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**19** The simplified value of $\frac{\sqrt{18}+\sqrt{8}}{\sqrt{2}}$ is

- A $\sqrt{13}$
- B $5\sqrt{2}$
- C 5
- D 10

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**20** The value of $(\sqrt{5}+\sqrt{2})(\sqrt{5}-\sqrt{2})$ is

ANSWER _____

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**21** When the denominator of $\frac{6}{3-\sqrt{3}}$ is rationalized, the result is

- A $3-\sqrt{3}$
- B $2+\sqrt{3}$
- C $9+3\sqrt{3}$
- D $3+\sqrt{3}$

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**22** Of the following values, the greatest is

- A $3\sqrt{5}$
- B $2\sqrt{11}$
- C $4\sqrt{4}$
- D $\sqrt{65}$

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**23** The value of x that satisfies $\sqrt{3x + 1} = \sqrt{2x + 9}$ is

ANSWER

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**24** For a ≥ 0, the simplified form of $\sqrt{72a^5}$ is

A $6a^2\sqrt{2a}$

B $6a^3\sqrt{2a}$

C $36a^2\sqrt{a}$

D $8a^2\sqrt{9a}$

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**25** The equation $\sqrt{x - 1} = x - 7$ has one extraneous root. The value of the valid solution is

ANSWER

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# ANSWER KEY

1. A
2. B
3. C
4. D
5. 12
6. A
7. B
8. C
9. D
10. 18
11. A
12. B
13. C
14. 6
15. B
16. A
17. 9
18. B
19. C
20. 3
21. D
22. D
23. 8
24. A
25. 10

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