ALBERTA MATH 10C · UNIT 2 · 25 QUESTIONS

Roots and Powers — 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 **When written as a single power, $3^2 \cdot 3^5$ is equal to**

- A 3^{10}
- B 3^7
- C 9^7
- D 3^3

Understand It with Pulse | Flag a mistake

2 **The value of $(-2)^4$ is**

- A -16
- B 16
- C -8
- D 8

Understand It with Pulse | Flag a mistake

3 When written as a single power, $\frac{7^9}{7^4}$ is equal to

- A 7^{13}
- B 7^4
- C 7^{36}
- D 7^5

Understand It with Pulse | Flag a mistake

4 The value of 12^0 is

- A 0
- B 12
- C 1
- D 120

Understand It with Pulse | Flag a mistake

5 When written as a mixed radical in simplest form, $\sqrt{50}$ is equal to

A $5\sqrt{2}$

B $2\sqrt{5}$

C $25\sqrt{2}$

D $5\sqrt{10}$

Understand It with Pulse | Flag a mistake

6 The value of 5^{-2} is

A -25

B -10

C 25

D $\frac{1}{25}$

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7 **The value of $16^{3/4}$ is**

- A 12
- B 8
- C 64
- D 4

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8 **When simplified, $(3x^2)^3$ is equal to**

- A $9x^6$
- B $27x^5$
- C $27x^6$
- D $3x^6$

Understand It with Pulse | Flag a mistake

9 If $2^x = 128$, then the value of x is ____.

ANSWER _____

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10 When written in radical form, $x^{5/3}$ is equal to

A $\sqrt[3]{x^5}$

B $\sqrt[5]{x^3}$

C $\sqrt{x^3}$

D $(\sqrt[3]{x^5})^2$

Understand It with Pulse | Flag a mistake

11 When simplified, $\frac{(a^4)^3}{a^5}$ is equal to

- **A** a^{12}
- **B** a^7
- **C** a^{17}
- **D** a^2

Understand It with Pulse | Flag a mistake

12 The value of $81^{3/4}$ is ____.

ANSWER _____

Understand It with Pulse | Flag a mistake

13 When written as an entire radical, $4\sqrt{3}$ is equal to

A $\sqrt{12}$

B $\sqrt{24}$

C $\sqrt{48}$

D $\sqrt{36}$

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14 When written as a mixed radical in simplest form, $\sqrt{200}$ is equal to

A $5\sqrt{2}$

B $2\sqrt{10}$

C $100\sqrt{2}$

D $10\sqrt{2}$

Understand It with Pulse | Flag a mistake

15 A bacteria culture starts with 300 bacteria, and the number of bacteria doubles every hour. The number of bacteria after 5 hours is ____.

ANSWER _____

Understand It with Pulse | Flag a mistake

16 The value of $\left(\frac{2}{3}\right)^{-2}$ is

A $\frac{9}{4}$

B $\frac{4}{9}$

C $-\frac{9}{4}$

D $\frac{4}{6}$

Understand It with Pulse | Flag a mistake

17 If $x^{1/3} = 5$, then the value of x is ____.

ANSWER _____

Understand It with Pulse | Flag a mistake

18 The numbers 4, $3\sqrt{2}$, $\sqrt{19}$, and $2\sqrt{5}$, written in increasing order, are

A $2\sqrt{5}, \sqrt{19}, 3\sqrt{2}, 4$

B $4, 3\sqrt{2}, \sqrt{19}, 2\sqrt{5}$

C $4, \sqrt{19}, 3\sqrt{2}, 2\sqrt{5}$

D $3\sqrt{2}, 4, \sqrt{19}, 2\sqrt{5}$

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19 When simplified and written with positive exponents, $\frac{6x^4y^{-2}}{3x^{-1}y^3}$ is equal to

A $\frac{2x^3}{y^5}$

B $\frac{2x^5}{y}$

C $\frac{2x^5}{y^5}$

D $2x^5y^5$

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20 The value of $\left(\frac{8}{27}\right)^{-1/3}$ is ____.

ANSWER _____

Understand It with Pulse | Flag a mistake

21 The value of $\sqrt[3]{-64}$ is

A 4

B -8

C 8

D -4

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22 The value of $(2^3 \cdot 2^{-5})^{-1}$ is ____.

ANSWER _____

Understand It with Pulse | Flag a mistake

23 When written as a power, $\sqrt[4]{y^3}$ is equal to

A $y^{4/3}$

B $y^{3/4}$

C y^{12}

D y^{7}

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24 The value of $32^{2/5}$ is ____.

ANSWER _____

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25 **When simplified and written with positive exponents, $\frac{(2x^{-2}y^{3})^{2}}{4xy^{-1}}$ is equal to**

A $\frac{y^{7}}{x^{5}}$

B $\frac{y^{6}}{x^{5}}$

C $\frac{y^{7}}{x^{3}}$

D $\frac{xy^{7}}{1}$

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ANSWER KEY

1. B
2. A
3. D
4. C
5. A
6. D
7. B
8. C
9. 7
10. A
11. B
12. 27
13. C
14. D
15. 9600
16. A
17. 125
18. B
19. C
20. 1.5
21. D
22. 4
23. B
24. 4
25. A

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