NUNAVUT MATHEMATICS 10C · UNIT 2 · 10 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 simplified, $(2a^3)^2 \cdot a^{-1}$ is equal to**

- A $2a^5$
- B $4a^7$
- C $2a^6$
- D $4a^5$

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2 **A square has an area of 98 cm². The side length of the square, written as a mixed radical in simplest form, is equal to**

- A $2\sqrt{7}$
- B $7\sqrt{2}$
- C $14\sqrt{2}$
- D $49\sqrt{2}$

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3 The value of $125^{1/3} + 16^{1/4}$ is ____.

ANSWER _____

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4 The numbers $\sqrt{7}$, $2\sqrt{2}$, 3, and $\sqrt{10}$, written in decreasing order, are

A $3, \sqrt{10}, 2\sqrt{2}, \sqrt{7}$

B $\sqrt{10}, 2\sqrt{2}, 3, \sqrt{7}$

C $\sqrt{10}, 3, 2\sqrt{2}, \sqrt{7}$

D $\sqrt{7}, 2\sqrt{2}, 3, \sqrt{10}$

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5 When written as a power, $\sqrt[3]{x^7}$ is equal to

- **A** $x^{7/3}$
- **B** $x^{3/7}$
- **C** x^{10}
- **D** x^{21}

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6 A sample of algae has a mass of 50 g, and its mass triples every day. The mass of the algae, in grams, after 4 days is ____.

ANSWER _____

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7 **When simplified and written with positive exponents, $\frac{4m^{-3}n^{2}}{2mn^{-4}}$ is equal to**

- **A** $\frac{2m^{4}}{n^{6}}$
- **B** $\frac{n^{6}}{2m^{4}}$
- **C** $2m^{-4}n^{6}$
- **D** $\frac{2n^{6}}{m^{4}}$

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8 **The value of $(-27)^{2/3}$ is**

- **A** -9
- **B** 9
- **C** -18
- **D** 18

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9 If $4^x = 8$, then the value of x is ____.

ANSWER _____

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

A $\frac{x^4}{y^6}$

B x^8y^6

C $\frac{x^8}{y^6}$

D $\frac{x^6}{y^3}$

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ANSWER KEY

1. D
2. B
3. 7
4. C
5. A
6. 4050
7. D
8. B
9. 1.5
10. C

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