ALBERTA MATH 30-1 · 10 QUESTIONS

Exponential & Logarithmic Functions — 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 expression $\log_2\left(\frac{x^3}{8y}\right)$, where x, y > 0, expanded fully, is**

- **A** $3\log_2 x - \log_2 y - 3$
- **B** $3\log_2 x - \log_2 y + 3$
- **C** $3\log_2 x - 3\log_2 y - 3$
- **D** $\log_2 x^3 - \log_2 y - 8$

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2 **The solution to the equation $\log_5(2x) - \log_5(x - 1) = 1$ is**

- **A** $x = 5$
- **B** $x = \frac{3}{5}$
- **C** $x = \frac{5}{3}$
- **D** $x = 2$

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3 **The graph below shows the value of a car over time. The value of the car, to the nearest dollar, after 4 years is**

- **A** 17 196
- **B** 14 616
- **C** 11 900
- **D** 23 800

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4 **If $\log_5 3 = m$, then $\log_5 75$ expressed in terms of m is**

- **A** 2m
- **B** m + 2
- **C** m - 2
- **D** $\frac{m}{2}$

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5 **The solution to the inequality $3^x > 81$ is**

- **A** $x > 4$
- **B** $x < 4$
- **C** $x > 27$
- **D** $x \geq 4$

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6 **A medication has a half-life of 4 hours. A patient is given 250 mg of the medication. The mass, in milligrams, remaining in the patient after 18 hours, to the nearest tenth, is _____**

ANSWER _____

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7 **A solution has a pH of 3.7. The hydronium ion concentration of the solution is**

A 5.0×10^{-4} mol/L

B 2.0×10^{-3} mol/L

C 5.0×10^{-11} mol/L

D 2.0×10^{-4} mol/L

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8 The value of $\log_9 27$ is

A $\frac{3}{2}$

B $\frac{2}{3}$

C 3

D $\frac{1}{3}$

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9 The value of $\log_2 6 + \log_2 12 - \log_2 9$ is _____

ANSWER _____

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10 The graph below shows the population of zebra mussels over time. The number of months it takes for the population to reach 16 200 mussels is

ANSWER _____

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ANSWER KEY

1.	A	**5.**	A	**9.**	3
2.	C	**6.**	11.0	**10.**	20
3.	B	**7.**	D		
4.	B	**8.**	A		

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