ALBERTA MATH 30-2 · UNIT 6 · 10 QUESTIONS

Exponential and 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 **An investment of $1200 earns 5% interest, compounded annually. The value of the investment after 4 years is**

- A $1440.00
- B $1458.61
- C $1260.00
- D $1500.00

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2 **The solution to the equation $2^{3x} = 64$ is**

- **A** x = 3
- **B** x = 4
- **C** x = 2
- **D** x = 8

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3 **The graph below shows a logarithmic function. The range of the function is**

- **A** all real numbers
- **B** y is greater than 0 for every x
- **C** $y \geq 0$
- **D** $y < 0$

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4 **If $\log_3 x = 4$, then the value of x is _____ Record your answer as a whole number.**

ANSWER _____

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5 **A machine purchased for $9600 loses 20% of its value each year. An equation that models the value of the machine, V, after t years is**

A $V = 9600(1.20)^t$

B $V = 9600(0.20)^t$

C $V = 9600 - 1920t$

D $V = 9600(0.80)^t$

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6 **The graph below shows a logarithmic function. The value of x where the graph crosses the x-axis is**

A -3

B $\frac{1}{8}$

C 8

D 1

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7 **The mass of a sample is modelled by $A(t) = 400(0.5)^{t/10}$, where t is the time, in days. The mass of the sample after 30 days, in grams, is _____ Record your answer as a whole number.**

ANSWER _____

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8 **An investment of $3000 earns 8% interest, compounded quarterly. The value of the investment after 1 year is**

A $3247.30

B $3240.00

C $3264.00

D $3200.00

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9 **If $\log_2(x - 3) = 4$, then the value of x is**

A 11

B 7

C 19

D 35

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10 **A population is modelled by $P(t) = 5000(1.03)^t$, where t is the number of years. The population after 5 years, to the nearest whole number, is _____ Record your answer to the nearest whole number.**

ANSWER

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ANSWER KEY

1. B
2. C
3. A
4. 81
5. D
6. B
7. 50
8. A
9. C
10. 5796

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