PRINCE EDWARD ISLAND PRE-CALCULUS 12 · UNIT D · 25 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 **The base 10 logarithm of 100000 is**

ANSWER _____

Understand It with Pulse | Flag a mistake

2 **The solution of $2^x = 32$ is x equals**

ANSWER _____

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3 **A population starts at 500 and doubles every 2 hours. After 3 doubling periods the population is**

ANSWER _____

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4 **A sample of 1000 grams halves each day. After 2 days the mass in grams is**

ANSWER _____

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5 **An investment of 1000 dollars at 10 percent compound annual interest for 3 years grows to this many dollars**

ANSWER _____

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6 **A substance of 900 grams loses half its mass every 2 hours. After 4 hours the mass in grams is**

ANSWER _____

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7 **An exponential function with a base between 0 and 1 shows**

- A decay
- B growth
- C a straight line
- D periodic behaviour

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8 **Compound interest is an example of**

- A periodic motion
- B constant change
- C exponential growth
- D linear growth

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9 **Half life is the time for a quantity to fall to**

A one quarter its value in one step

B half its value

C zero

D double its value

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10 **Log of a product equals**

A the quotient of the logs

B the sum of the logs

C the product of the logs

D the difference of the logs

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11 **Log of a quotient equals**

A the difference of the logs

B the sum of the logs

C the product of the logs

D the log of the sum

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12 **Solving an exponential equation often uses**

A the quadratic formula only

B trigonometry only

C logarithms

D factoring only

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13 **A calculator has only a log button for base 10. To find log base 2 of 8, a student could use the**

A addition only

B the graph only

C trial values only

D change of base formula

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14 **The domain of a logarithmic function y = log x is**

A x less than 0

B x greater than or = 0

C x greater than 0

D all real numbers

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15 **An exponential growth function**

- A increases ever more steeply
- B is a straight line
- C decreases to zero linearly
- D oscillates

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16 **The horizontal asymptote of $y = 2^x$ is**

- A $x = 0$
- B $y = 1$
- C $y = 2$
- D $y = 0$

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17 The log base b of b equals

- A 0
- B b
- C -1
- D 1

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18 The natural logarithm base e of e^3 is

ANSWER _____

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19 The base 3 logarithm of 81 is

ANSWER _____

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20 **The solution of $2^x = 64$ is x equals**

ANSWER _____

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21 **A population starts at 100 and doubles every 3 hours. After 4 doubling periods the population is**

ANSWER _____

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22 **A sample of 640 grams halves each day. After 3 days the mass in grams is**

ANSWER _____

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23 **An investment of 2000 dollars at 5 percent compound annual interest for 2 years grows to this many dollars**

ANSWER _____

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24 **The base 4 logarithm of 16 is**

ANSWER _____

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25 **The solution of $2^x = 128$ is x equals**

ANSWER _____

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ANSWER KEY

1. 5
2. 5
3. 4000
4. 250
5. 1331
6. 225
7. A
8. C
9. B
10. B
11. A
12. C
13. D
14. C
15. A
16. D
17. D
18. 3
19. 4
20. 6
21. 1600
22. 80
23. 2205
24. 2
25. 7

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