ARKANSAS ALGEBRA II · UNIT 3 · 25 QUESTIONS

Exponential, Logarithmic, and Trigonometric 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 solution of $2^x = 32$ is**

- **A** 5
- **B** 6
- **C** 16
- **D** 4

Understand It with Pulse | Flag a mistake

2 **The value of $\log_2 64$ is**

- A 6
- B 8
- C 32
- D 4

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3 **The value of $\log_3 81$ is**

- A 3
- B 9
- C 4
- D 27

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4 The solution of $5^x = 125$ is

- A 25
- B 5
- C 4
- D 3

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5 The solution of $3^x = 81$ is

- A 4
- B 3
- C 27
- D 9

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6 The value of $\log_{10} 1000$ is

- A 10
- B 3
- C 100
- D 4

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7 The value of $\sin 30°$ is

- A $\frac{\sqrt{3}}{2}$
- B 1
- C $\frac{1}{2}$
- D $\frac{\sqrt{2}}{2}$

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8 **The value of cos 45° is**

- **A** $\frac{1}{2}$
- **B** $\frac{\sqrt{3}}{2}$
- **C** 1
- **D** $\frac{\sqrt{2}}{2}$

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9 **For any angle θ, $\sin^2 \theta + \cos^2 \theta$ equals**

- **A** 1
- **B** 0
- **C** 2
- **D** θ

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10 **The period of y = sin 2x is**



A 2π

B π

C π/2

D 4π

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11 The amplitude of $y = 3\sin x$ is

- A 1
- B 2
- C 3
- D 6

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12 The value of $\log_{10} 100 + \log_{10} 10$ is

- A 2
- B 10
- C 1000
- D 3

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13 The solution of $2^{x+1} = 16$ is

- A 3
- B 4
- C 2
- D 8

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14 The value of $\log_5 125$ is

- A 5
- B 3
- C 25
- D 4

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15 **A population starts at 200 and doubles every 3 hours After 9 hours, the population is**



A 600

B 800

C 1600

D 3200

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16 **A sample starts at 800 grams and halves every 2 days After 6 days, the sample is, in grams**

A 400

B 200

C 50

D 100

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17 **An angle of 180° measures, in radians**

A π

B 2π

C $\frac{\pi}{2}$

D 1

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18 The value of cos 60° is

A $\frac{\sqrt{3}}{2}$

B $\frac{1}{2}$

C $\frac{\sqrt{2}}{2}$

D 0

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19 The value of tan 45° is

A 0

B $\sqrt{3}$

C 1

D $\frac{1}{2}$

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20 The period of $y = \cos x$ is

- A π
- B $\frac{\pi}{2}$
- C 4π
- D 2π

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21 The solution of $\log_2 x = 4$ is

- A 16
- B 8
- C 2
- D 64

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22 The solution of $10^x = 10000$ is

- **A** 3
- **B** 4
- **C** 5
- **D** 1000

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23 If $\sin\theta = \frac{3}{5}$ and $\cos\theta$ is positive, then $\cos\theta$ equals

- **A** $\frac{3}{4}$
- **B** $\frac{5}{4}$
- **C** $\frac{4}{5}$
- **D** $\frac{5}{3}$

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24 An exponential function passes through (0, 5) and (1, 15). Its base is

- **A** 5
- **B** 15
- **C** $\frac{1}{3}$
- **D** 3

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25 The value of $\log_2 128$ is _____

ANSWER _____

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ANSWER KEY

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

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