DELAWARE 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 **A geometric sequence starts with 1 and has common ratio 3. The 4 term is**

ANSWER _____

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2 **A quantity starts at 200 and doubles each hour. After 2 hours, the quantity is**

ANSWER _____

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3 **A quantity starts at 500 and triples each hour. After 3 hours, the quantity is**

ANSWER _____

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4 In a right triangle, the side opposite an acute angle is 9, the adjacent side is 12, and the hypotenuse is 15. The cosine of the angle is

- **A** $\frac{9}{15}$
- **B** $\frac{12}{9}$
- **C** $\frac{15}{12}$
- **D** $\frac{12}{15}$

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5 In a right triangle, the side opposite an acute angle is 5, the adjacent side is 12, and the hypotenuse is 13. The sine of the angle is

- **A** $\frac{12}{13}$
- **B** $\frac{5}{13}$
- **C** $\frac{5}{12}$
- **D** $\frac{13}{5}$

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6

Evaluate 2^3.

ANSWER

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7

Evaluate $\log_3 27$.

ANSWER

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8

Evaluate 3^3.

ANSWER

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9

Evaluate 3^2.

ANSWER

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10 **Evaluate 2^2.**

ANSWER _____

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11 **Evaluate $\log_2 16$.**

ANSWER _____

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12 **Evaluate $\log_2 8$.**

ANSWER _____

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13 **Evaluate $\log_3 81$.**

ANSWER _____

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14 **Evaluate 2^4.**

ANSWER _____

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15 **In a 45-45-90 triangle, each leg is 3. The hypotenuse is**

A 6

B $3\sqrt{3}$

C $3\sqrt{2}$

D 3

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16 **A geometric sequence starts with 2 and has common ratio 2. The 5 term is**

ANSWER _____

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17 **A quantity starts at 500 and doubles each hour. After 2 hours, the quantity is**

ANSWER _____

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18 **A quantity starts at 500 and triples each hour. After 2 hours, the quantity is**

ANSWER _____

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19 **In a right triangle, the side opposite an acute angle is 9, the adjacent side is 12, and the hypotenuse is 15. The cosine of the angle is**

A $\frac{9}{15}$

B $\frac{12}{15}$

C $\frac{12}{9}$

D $\frac{15}{12}$

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20 In a right triangle, the side opposite an acute angle is 3, the adjacent side is 4, and the hypotenuse is 5. The sine of the angle is

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

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21 A geometric sequence starts with 3 and has common ratio 3. The 4 term is

ANSWER _____

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22 A quantity starts at 100 and doubles each hour. After 2 hours, the quantity is

ANSWER _____

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23 **A quantity starts at 200 and triples each hour. After 2 hours, the quantity is**

ANSWER _____

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24 **In a right triangle, the side opposite an acute angle is 3, the adjacent side is 4, and the hypotenuse is 5. The cosine of the angle is**

A $\frac{3}{5}$

B $\frac{4}{3}$

C $\frac{5}{4}$

D $\frac{4}{5}$

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25 **In a right triangle, the side opposite an acute angle is 9, the adjacent side is 12, and the hypotenuse is 15. The sine of the angle is**

A $\frac{12}{15}$

B $\frac{9}{15}$

C $\frac{9}{12}$

D $\frac{15}{9}$

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ANSWER KEY

1.	27	**10.**	4	**19.**	B
2.	800	**11.**	4	**20.**	D
3.	13500	**12.**	3	**21.**	81
4.	D	**13.**	4	**22.**	400
5.	B	**14.**	16	**23.**	1800
6.	8	**15.**	C	**24.**	D
7.	3	**16.**	32	**25.**	B
8.	27	**17.**	2000		
9.	9	**18.**	4500		

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