CALIFORNIA PRECALCULUS · UNIT 2 · 25 QUESTIONS

Trigonometry 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 value of $\sin \frac{\pi}{6}$ is

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

Understand It with Pulse | Flag a mistake

2 The value of $\cos \frac{\pi}{3}$ is

- A 1
- B $\frac{1}{2}$
- C $\frac{\sqrt{3}}{2}$
- D 0

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3 The value of $\tan \frac{\pi}{4}$ is

- A 1
- B $\sqrt{3}$
- C 0
- D $\frac{1}{2}$

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4 The value of sin 210° is

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

B $-\frac{1}{2}$

C $-\frac{\sqrt{3}}{2}$

D $\frac{1}{2}$

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5 The value of cos 120° is

A $\frac{1}{2}$

B $-\frac{1}{2}$

C 0

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

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6 The value of sin 225° is

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

B $\frac{1}{2}$

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

D $-\frac{1}{2}$

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7 The identity for tan θ in terms of sine and cosine is

A $\frac{\sin\theta}{\cos\theta}$

B $\frac{\cos\theta}{\sin\theta}$

C $\frac{1}{\sin\theta}$

D $\sin\theta\cos\theta$

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8 If $\cos\theta = \frac{3}{5}$, then $\sec\theta$ is

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

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9 The amplitude of $y = 4\sin x$ is

- A 1
- B 4
- C 2π
- D 2

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10 The period of $y = \cos 2x$ is

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

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11 The graph of $y = \sin\left(x - \frac{\pi}{2}\right)$ is the graph of $y = \sin x$ shifted

- A down by $\frac{\pi}{2}$
- B up by $\frac{\pi}{2}$
- C right by $\frac{\pi}{2}$
- D left by $\frac{\pi}{2}$

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12 The solutions of $\sin x = \frac{1}{2}$ on $[0, 2\pi)$ are

- **A** $\frac{5\pi}{6}$ only
- **B** $\frac{\pi}{6}$ only
- **C** $\frac{\pi}{3}$ and $\frac{2\pi}{3}$
- **D** $\frac{\pi}{6}$ and $\frac{5\pi}{6}$

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13 The solutions of $\cos x = 0$ on $[0, 2\pi)$ are

- **A** $\frac{\pi}{2}$ only
- **B** $\frac{\pi}{2}$ and $\frac{3\pi}{2}$
- **C** 0 and π
- **D** π only

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14 The solutions of $\tan x = 1$ on $[0, 2\pi)$ are

- **A** $\frac{\pi}{4}$ only
- **B** $\frac{\pi}{4}$ and $\frac{3\pi}{4}$
- **C** $\frac{3\pi}{4}$ and $\frac{7\pi}{4}$
- **D** $\frac{\pi}{4}$ and $\frac{5\pi}{4}$

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15 If $\sin\theta = \frac{3}{5}$ and $\cos\theta = \frac{4}{5}$, then $\sin 2\theta$ is

- **A** $\frac{24}{25}$
- **B** $\frac{9}{25}$
- **C** $\frac{7}{25}$
- **D** $\frac{12}{25}$

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16 **If $\sin\theta = \frac{3}{5}$, then $\cos 2\theta$ is**

A $\frac{16}{25}$

B $-\frac{7}{25}$

C $\frac{7}{25}$

D $\frac{9}{25}$

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17 **In a triangle with sides a = 3, b = 4, and included angle C = 90°, the side c is**

A 6

B 7

C 5

D 25

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18 In a triangle with sides a = 5, b = 5, and included angle C = 60°, the side c is

- A 5
- B 10
- C $5\sqrt{3}$
- D 25

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19 The principal value of $\arcsin \frac{1}{2}$ is

- A $\frac{5\pi}{6}$
- B $\frac{\pi}{6}$
- C $\frac{\pi}{2}$
- D $\frac{\pi}{3}$

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20 **The principal value of arccos 0 is**

- **A** π
- **B** $\frac{\pi}{2}$
- **C** $\frac{\pi}{4}$
- **D** 0

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21 **The principal value of arctan 1 is**

- **A** $\frac{\pi}{4}$
- **B** $\frac{\pi}{3}$
- **C** $\frac{\pi}{6}$
- **D** $\frac{\pi}{2}$

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22 **The period of y = 3 sin 4x is**

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

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23 **The simplified form of 1 - $\cos^2 \theta$ is**

- A 1
- B $\sin^2 \theta$
- C $\cos^2 \theta$
- D $\tan^2 \theta$

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24 The value of sin $\frac{\pi}{2}$ is

ANSWER

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25 The midline of y = sin x + 2 is

A y = -2

B y = 0

C y = 2

D y = 1

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ANSWER KEY

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

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