ALASKA PRECALCULUS · UNIT 2 · 25 QUESTIONS

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

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

A $\frac{1}{2}$

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

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

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

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

A 0

B $\sqrt{3}$

C 1

D $\frac{1}{2}$

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4 **An angle of 150° in radians is**



A $\frac{5\pi}{6}$

B $\frac{2\pi}{3}$

C $\frac{3\pi}{4}$

D $\frac{5\pi}{3}$

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5 An angle of $\frac{3\pi}{4}$ radians in degrees is

- **A** 120°
- **B** 150°
- **C** 135°
- **D** 45°

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6 If $\sin\theta = \frac{3}{5}$ and θ is in quadrant I, then $\cos\theta$ is

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

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7 If $\cos\theta = -\frac{5}{13}$ and θ is in quadrant II, then $\sin\theta$ is

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

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8 For any angle x, $\sin^2 x$ equals

- **A** $1 + \cos^2 x$
- **B** $1 - \cos^2 x$
- **C** $\cos^2 x - 1$
- **D** $1 + \tan^2 x$

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9 **The value of $\csc \frac{\pi}{2}$ is**

A 0

B -1

C 1

D $\frac{1}{2}$

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10 **The amplitude of y = 4 sin x is**



A 4

B 1

C 2

D 2π

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11 The period of $y = \sin 2x$ is



A 2π

B $\frac{\pi}{2}$

C π

D 4π

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12 The midline of $y = 3 \cos x - 2$ is

- **A** $y = 3$
- **B** $y = -3$
- **C** $y = 2$
- **D** $y = -2$

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13 Compared with $y = \sin x$, the graph of $y = \sin\left(x - \frac{\pi}{3}\right)$ is shifted

- **A** $\frac{\pi}{3}$ to the left
- **B** $\frac{\pi}{3}$ to the right
- **C** $\frac{\pi}{3}$ up
- **D** $\frac{\pi}{3}$ down

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14 For $y = 3 \cos x$, the maximum point has coordinates

A $(0, 3)$

B $(0, -3)$

C $(\pi, 3)$

D $(0, 1)$

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15 The solutions of $\sin x = \frac{1}{2}$ for $0 \leq x < 2\pi$ are

A $x = \frac{\pi}{6}, \frac{5\pi}{6}$

B $x = \frac{\pi}{3}, \frac{2\pi}{3}$

C $x = \frac{\pi}{6}, \frac{7\pi}{6}$

D $x = \frac{\pi}{3}, \frac{5\pi}{3}$

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16 **The solutions of $\cos x = 0$ for $0 \leq x < 2\pi$ are**

A $x = 0, \pi$

B $x = \frac{\pi}{2}, \frac{3\pi}{2}$

C $x = \frac{\pi}{4}, \frac{3\pi}{4}$

D $x = \pi, 2\pi$

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17 **In a triangle, A = 30°, B = 60°, a = 10. Using the law of sines, b is**



A 20

B $\frac{10}{\sqrt{3}}$

C $5\sqrt{3}$

D $10\sqrt{3}$

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18 **A triangle has sides 5 and 7 with included angle 60°. Using the law of cosines, the third side is**



A $\sqrt{109}$

B $\sqrt{39}$

C $\sqrt{74}$

D 9

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19 A triangle has sides 6 and 8 with included angle 90°. Its area is

- A 48
- B 24
- C 14
- D 12

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20 The reference angle for 210° equals

ANSWER _____

Understand It with Pulse | Flag a mistake

21 The value of cos 180° equals

ANSWER _____

Understand It with Pulse | Flag a mistake

22 **The period of y = cos 4x in degrees equals**

ANSWER _____

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23 **For any angle x, sin(-x) equals**

A sin x

B cos x

C -sin x

D -cos x

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24 For an angle where $\cos x \neq 0$, $\tan x$ equals

- **A** $\frac{\cos x}{\sin x}$
- **B** $\frac{1}{\cos x}$
- **C** $\sin x \cos x$
- **D** $\frac{\sin x}{\cos x}$

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25 The value of $\arcsin 1$ is

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

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ANSWER KEY

1. A
2. B
3. C
4. A
5. C
6. D
7. A
8. B
9. C
10. A
11. C
12. D
13. B
14. A
15. A
16. B
17. D
18. B
19. B
20. 30
21. -1
22. 90
23. C
24. D
25. C

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