ILLINOIS 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 210° is**

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

B $\frac{1}{2}$

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

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

Understand It with Pulse | Flag a mistake

2 **The value of cos 120° 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 45° is**

A 0

B $\frac{1}{2}$

C 1

D $\sqrt{3}$

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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** 135°
- **C** 150°
- **D** 270°

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6 **The reference angle for 200° is**

A 20°

B 40°

C 160°

D 200°

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7 **An angle coterminal with -30° between 0° and 360° is**

A 30°

B 150°

C 330°

D 210°

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

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

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9 If $\cos\theta = \frac{5}{13}$ and $\sin\theta = \frac{12}{13}$, then $\tan\theta$ is

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

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10 The identity $\sin^2 \theta + \cos^2 \theta$ equals

- A 0
- B 1
- C 2
- D $\tan \theta$

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11 The value of sec 60° is

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

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

- **A** 1
- **B** 2
- **C** 4
- **D** 2π

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13 The period of $y = 2 \cos(3x)$ is

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

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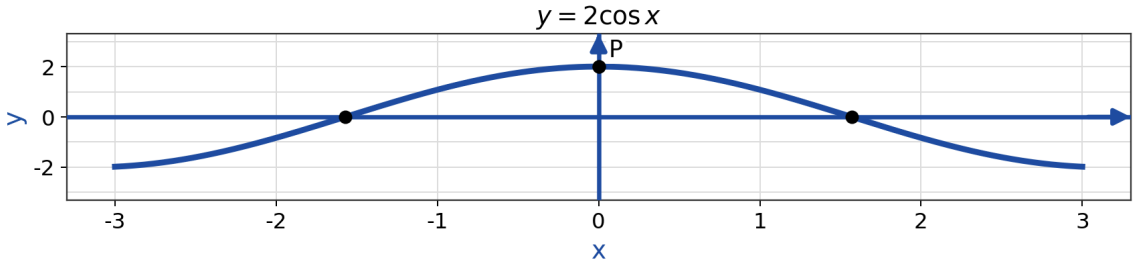
14 **The graph shows y = 2 cos x. The value of y when x = 0 is**



A 0

B 1

C 2

D -2

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Flag a mistake

15 In a right triangle with opposite side 5 and hypotenuse 13, the sine of the angle is

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

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16 The smallest nonnegative solution of $\sin x = \frac{1}{2}$ is

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

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17 The value of $\sin^{-1}\frac{1}{2}$ is

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

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

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

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19 For a circle of radius 6 and central angle $\frac{\pi}{3}$, the arc length is

- **A** π
- **B** 2π
- **C** 3π
- **D** 6π

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20 For a circle of radius 4 and central angle $\frac{\pi}{2}$, the sector area is

- **A** 4π
- **B** 2π
- **C** 8π
- **D** 16π

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21 **By the Law of Cosines, if a = 5, b = 6, and C = 90°, then c is**

- A 11
- B $\sqrt{61}$
- C $\sqrt{11}$
- D 61

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22 **If $\tan\theta = \frac{3}{4}$, then $\cot\theta$ is**

- A $\frac{3}{4}$
- B $\frac{4}{3}$
- C $-\frac{3}{4}$
- D 1

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23 **The value of cos 180° is ____.**

ANSWER _____

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24 **The value of sin 90° is ____.**

ANSWER _____

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25 **In degrees, $\frac{\pi}{2}$ radians is ____.**

ANSWER _____

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ANSWER KEY

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

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