Trigonometry, 25-question test — 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**

Question 1

The value of sin 210° is

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

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

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

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2 The value of cos 120° is

Question 2

The value of cos 120° is

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

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

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

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

A 1/2

B -1/2

C $\sqrt{3}/2$

D $-\sqrt{3}/2$

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3 The value of tan 45° is

Question 3

The value of tan 45° is

A) 0

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

C) 1

D) $\sqrt{3}$

A 0

B 1/2

C 1

D $\sqrt{3}$

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4 An angle of 150° in radians is

Question 4

An angle of 150° in radians is

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

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

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

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

A 5π/6

B 2π/3

C 3π/4

D 5π/3

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5 An angle of 3π/4 radians in degrees is

Question 5

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

A) 120°

B) 135°

C) 150°

D) 270°

A 120°

B 135°

C 150°

D 270°

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6 The reference angle for 200° is

Question 6

The reference angle for 200° is

A) 20°

B) 40°

C) 160°

D) 200°

A 20°

B 40°

C 160°

D 200°

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

Question 7

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

A) 30°

B) 150°

C) 330°

D) 210°

A 30°

B 150°

C 330°

D 210°

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8 If sin θ = 3/5 and θ is in Quadrant I, then cos θ is

Question 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) $\frac{5}{4}$

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

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9 If cos θ = 5/13 and sin θ = 12/13, then tan θ is

Question 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) $\frac{12}{13}$

- **A** 5/12
- **B** 12/5
- **C** 13/12
- **D** 12/13

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10 The identity sin² θ + cos² θ equals

Question 10

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

A) 0

B) 1

C) 2

D) tan θ

A 0

B 1

C 2

D tan θ

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11 The value of sec 60° is

Question 11

The value of sec $60°$ is

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

B) $\sqrt{3}$

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

D) 2

A 1/2

B $\sqrt{3}$

C $2/\sqrt{3}$

D 2

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12 The amplitude of y = 4 sin x is

Question 12

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

A) 1

B) 2

C) 4

D) 2π

A 1

B 2

C 4

D 2π

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

Question 13

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

A) 2π

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

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

D) 3π

A 2π

B 2π/3

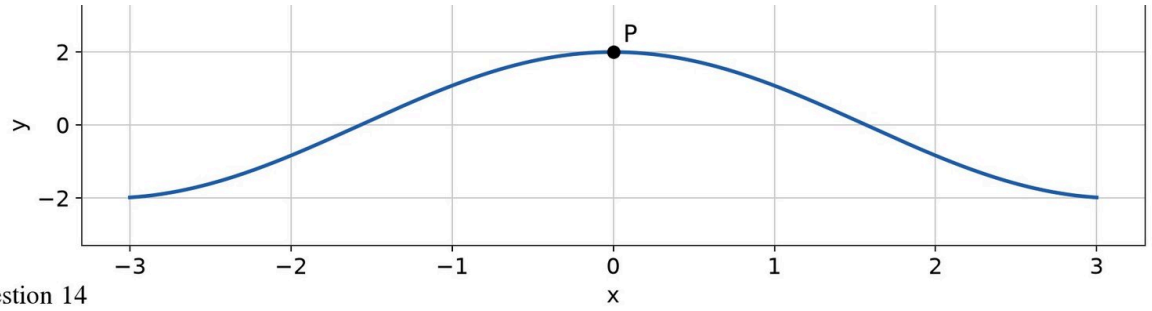
C π/3

D 3π

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



Question 14

The graph shows $y = 2 \cos x$. The value of y when $x = 0$ is

A) 0

B) 1

C) 2

D) −2

A 0

B 1

C 2

D -2

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15

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

Question 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) $\frac{13}{5}$

A 5/12

B 12/13

C 5/13

D 13/5

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16 The smallest nonnegative solution of sin x = 1/2 is

Question 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) $\frac{\pi}{6}$

A π/3

B 5π/6

C π/2

D π/6

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

Question 17

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

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

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

C) $\frac{5\pi}{6}$

D) $-\frac{\pi}{6}$

A π/6

B π/3

C 5π/6

D -π/6

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18 If sin θ = 3/5 and cos θ = 4/5, then sin 2θ is

Question 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) $\frac{9}{25}$

A 7/25

B 12/25

C 24/25

D 9/25

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19 For a circle of radius 6 and central angle π/3, the arc length is

Question 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

A π

B 2π

C 3π

D 6π

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20 For a circle of radius 4 and central angle π/2, the sector area is

Question 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

A 2π

B 4π

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

Question 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

A 11

B $\sqrt{61}$

C $\sqrt{11}$

D 61

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22 If tan θ = 3/4, then cot θ is

Question 22

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

A) $\frac{3}{4}$

B) $\frac{4}{3}$

C) $-\frac{3}{4}$

D) 1

- **A** 3/4
- **B** 4/3
- **C** -3/4
- **D** 1

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23 The value of cos 180° is ____.

Question 23

The value of cos 180° is ____.

ANSWER _____

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24 The value of sin 90° is _____.

Question 24

The value of sin 90° is ____.

ANSWER

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25 In degrees, π/2 radians is _____.

Question 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.**	B
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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