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 **An angle of 150° in standard position lies in quadrant**



A I

B II

C III

D IV

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2 **An angle of -60° in standard position lies in quadrant**

A I

B II

C III

D IV

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3 **The angle coterminal with 370° between 0° and 360° is**

A 10°

B 350°

C 170°

D 190°

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4 **The reference angle for 150° is**



A 60°

B 30°

C 150°

D 210°

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5 **The reference angle for 300° is**

- A 30°
- B 120°
- C 60°
- D 240°

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6 **The exact value of sin 150° is**

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

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7 **The exact 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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8 **The exact value of tan 225° is**

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

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9 The value of sin 270° is

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

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10 The value of cos 180° is

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

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11 In the right triangle shown, AB = 4, AC = 3, and BC = 5. The value of sin B is

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

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12 In the right triangle shown, AB = 12, AC = 5, and BC = 13. The value of cos B is

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

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13 **In a triangle, A = 30°, a = 10, and B = 45°. By the sine law, the side b is**



A $10\sqrt{2}$

B $5\sqrt{2}$

C $10\sqrt{3}$

D 20

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14 **In a triangle, A = 45°, a = 12, and B = 30°. By the sine law, the side b is**

- A $12\sqrt{2}$
- B $6\sqrt{2}$
- C $6\sqrt{3}$
- D 12

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15 **In a triangle, b = 5, c = 7, and the angle between them is 60°. By the cosine law, the third side is**

- A $\sqrt{39}$
- B $\sqrt{74}$
- C $\sqrt{109}$
- D $\sqrt{24}$

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16 **In a triangle, two sides are 7 and 8 with 60° between them. By the cosine law, the third side is**

A $\sqrt{57}$

B $\sqrt{113}$

C $\sqrt{169}$

D $\sqrt{15}$

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17 **A triangle has sides 5, 5, and $5\sqrt{2}$. The angle opposite the longest side is**



A 60°

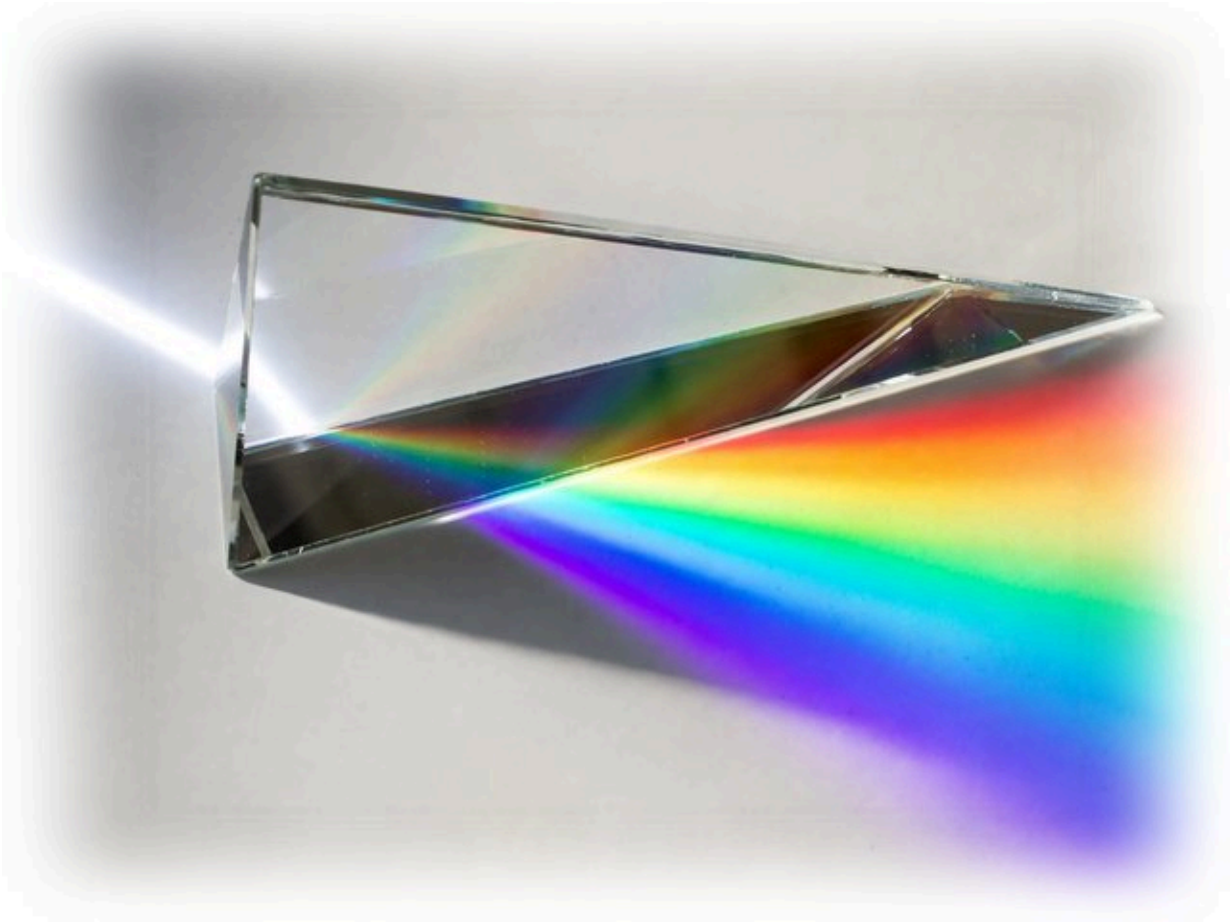
B 45°

C 90°

D 120°

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18 The solutions of $\sin x = \frac{1}{2}$ for $0° \leq x < 360°$ are



A 30, 150

B 30, 210

C 60, 120

D 150, 330

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19 The solutions of $\cos x = -\frac{1}{2}$ for $0° \leq x < 360°$ are

- A 60, 300
- B 120, 240
- C 120, 300
- D 60, 240

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20 The solutions of $\tan x = 1$ for $0° \leq x < 360°$ are

- A 45, 135
- B 45, 225
- C 135, 315
- D 45, 315

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21 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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22 The ratio $\frac{\sin \theta}{\cos \theta}$ is equal to

- **A** cot θ
- **B** tan θ
- **C** sec θ
- **D** 1

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23 Which expression is equal to $\sec^2 \theta$?

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

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24 **The value of sin 210° is ____.**

ANSWER _____

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25 **The value of tan 45° is ____.**

ANSWER _____

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ANSWER KEY

1.	B	**10.**	A	**19.**	B
2.	D	**11.**	A	**20.**	B
3.	A	**12.**	B	**21.**	A
4.	B	**13.**	A	**22.**	B
5.	C	**14.**	B	**23.**	A
6.	B	**15.**	A	**24.**	-0.5
7.	B	**16.**	A	**25.**	1
8.	C	**17.**	C		
9.	C	**18.**	A		

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