

Fundamentals of Trigonometry

Trigonometry · Answer Key · 25 Questions

1. In a right-angled triangle, what is the side opposite the right angle called?

- A) Adjacent
- B) Hypotenuse**
- C) Opposite
- D) Leg

2. Which trigonometric function represents the ratio of the opposite side to the hypotenuse?

- A) Cosine
- B) Tangent
- C) Sine**
- D) Secant

3. What is the sum of the interior angles of any triangle in Euclidean geometry?

- A) 90 degrees
- B) 180 degrees**
- C) 270 degrees
- D) 360 degrees

4. In a right-angled triangle, the cosine of an angle is the ratio of which two sides?

- A) Adjacent and Hypotenuse**
- B) Opposite and Adjacent
- C) Hypotenuse and Opposite
- D) Adjacent and Opposite

5. What does the Pythagorean theorem state for a right triangle with legs a, b and hypotenuse c?

- A) $a+b=c$
- B) $a^2+b^2=c^2$**
- C) $a*b=c$
- D) $a/b=c$

6. The tangent of an angle in a right triangle is the ratio of which two sides?

- A) Hypotenuse and Adjacent
- B) Adjacent and Opposite
- C) Opposite and Adjacent**
- D) Opposite and Hypotenuse

7. What is the value of the sine of 90 degrees?

- A) 0
- B) 0.5
- C) 1**
- D) Undefined

8. How many degrees are in a full circle?

- A) 90
- B) 180
- C) 270
- D) 360**

9. What is the standard unit of angular measurement used in trigonometry besides degrees?

- A) Radians**
- B) Meters
- C) Seconds
- D) Grams

10. Which trigonometric function is defined as 1 divided by the sine?

- A) Cosine
- B) Secant
- C) Cosecant**
- D) Cotangent

11. What is the value of the cosine of 0 degrees?

- A) 0
- B) 0.5
- C) 1**
- D) -1

12. In a right triangle, if one angle is 90 degrees and another is 45 degrees, what is the third angle?

- A) 30 degrees
- B) 45 degrees**
- C) 60 degrees
- D) 90 degrees

13. Which branch of mathematics primarily deals with the relationships between triangle sides and angles?

- A) Algebra
- B) Trigonometry**
- C) Calculus
- D) Statistics

14. The term 'trigonometry' is derived from Greek words meaning what?

- A) Circle measurement
- B) Angle calculation
- C) Triangle measurement**
- D) Line division

15. What is the reciprocal of the cosine function?

- A) Secant**
- B) Cosecant
- C) Cotangent
- D) Sine

16. In the unit circle, what is the maximum value of the sine function?

- A) 0
- B) 1**
- C) 10
- D) Infinity

17. Which side of a right triangle is always the longest?

- A) The base
- B) The height
- C) The hypotenuse**
- D) The adjacent side

18. If an angle is greater than 0 but less than 90 degrees, it is classified as what?

- A) Obtuse
- B) Right
- C) Acute**
- D) Reflex

19. What does the 'S' in the mnemonic SOH-CAH-TOA stand for?

- A) Sine**
- B) Secant
- C) Side
- D) Sum

20. What is the value of the tangent of 45 degrees?

- A) 0
- B) 0.5
- C) 1**
- D) Undefined

21. Which trigonometric ratio is equal to the adjacent side divided by the opposite side?

- A) Sine
- B) Cosine
- C) Tangent
- D) Cotangent**

22. What are the two legs of a right triangle that form the right angle called?

- A) Hypotenuses
- B) Opposite and Adjacent**
- C) Parallel sides
- D) Transversals

23. In a right triangle, the hypotenuse is always opposite to which angle?

- A) The smallest angle
- B) The 45-degree angle
- C) The 90-degree angle**
- D) The largest acute angle

24. Which trigonometric function is defined as 1 divided by the tangent?

- A) Cotangent**
- B) Secant
- C) Cosecant
- D) Cosine

25. What is the cosine of 90 degrees?

- A) 0**
- B) 0.5
- C) 1
- D) -1