

Calculus Basics for Young Learners

Calculus · Answer Key · 10 Questions

1. What is the primary branch of calculus that deals with finding the rate of change of a function?

A) Differential Calculus

- B) Arithmetic
- C) Geometry
- D) Statistics

2. Which mathematical concept is used to find the slope of a curve at a single point?

A) The derivative

- B) A square root
- C) A factor
- D) The circumference

3. Calculus is largely credited to being developed independently by Isaac Newton and which other mathematician?

A) Gottfried Wilhelm Leibniz

- B) Pythagoras
- C) Albert Einstein
- D) Blaise Pascal

4. In calculus, what does the symbol 'dx' typically represent in an expression?

A) An infinitely small change in x

- B) A multiplication sign
- C) The distance of x
- D) The variable x squared

5. What branch of calculus is concerned with finding areas under curves and accumulation?

A) Integral Calculus

- B) Basic Addition
- C) Linear Algebra
- D) Trigonometry

6. A line that just touches a curve at a single point without crossing it is known as what?

A) A tangent line

- B) A parallel line
- C) A diameter
- D) A perpendicular line

7. What is the name for the study of how things change over time, which is the foundation of calculus?

A) Calculus

B) Geometry

C) Algebra

D) Arithmetic

8. Which of these functions represents a straight line, which has a constant rate of change?

A) $y = mx + b$

B) $y = x^2$

C) $y = x^3$

D) $y = \sin(x)$

9. When a value in a function gets closer and closer to a specific number without necessarily reaching it, this is called a what?

A) Limit

B) Total

C) Maximum

D) Variable

10. Calculus is essential for calculating the instantaneous speed of an object moving at which type of velocity?

A) Variable velocity

B) Constant speed

C) Stationary

D) Static