

Calculus Fundamentals for Beginners

Calculus · Answer Key · 20 Questions

1. What does the slope of a straight line measure on a graph?

- A) The color of the line
- B) The steepness of the line**
- C) The thickness of the line
- D) The length of the line

2. In mathematics, what is the study of how things change called?

- A) Geometry
- B) Calculus**
- C) Arithmetic
- D) Spelling

3. Which famous scientist is often credited with co-inventing calculus?

- A) Isaac Newton**
- B) Albert Einstein
- C) Charles Darwin
- D) Gregor Mendel

4. What is a simple way to describe the 'rate of change'?

- A) How fast something happens**
- B) How heavy an object is
- C) How cold the weather is
- D) How many items are in a box

5. If a car's speed is constant, what happens to its position over time?

- A) It stays the same
- B) It changes at a steady rate**
- C) It moves randomly
- D) It disappears

6. What shape do you get if you graph a linear equation with a constant slope?

- A) A circle
- B) A zigzag
- C) A straight line**
- D) A spiral

7. Calculus is often divided into two main branches: Differential and what else?

- A) Integral**
- B) Fractional
- C) Geometric
- D) Subtractive

8. When we look at the 'area under a curve' on a graph, what are we usually measuring?

- A) The weight of the paper
- B) The accumulation of a quantity**
- C) The speed of a train
- D) The number of colors used

9. Which mathematical symbol is commonly used to represent a very small change?

- A) \$
- B) &
- C) ?**
- D) @

10. If a line goes upward from left to right, is the slope positive or negative?

- A) Positive**
- B) Negative
- C) Neutral
- D) Zero

11. What do we call a point where a curve changes direction?

- A) A flat spot
- B) A turning point**
- C) A corner
- D) A dead end

12. If you are measuring how the speed of a ball changes every second, what part of calculus are you using?

- A) Division
- B) Addition
- C) Differentiation**
- D) Counting

13. What does a 'horizontal line' tell us about the rate of change?

- A) It is increasing
- B) It is decreasing
- C) It is zero**
- D) It is very fast

14. Calculus is useful for calculating the motion of which of the following?

A) Planets

- B) Letters
- C) Colors
- D) Dreams

15. Which Greek letter is often used to represent a small change in calculus?

A) Alpha

B) Delta

- C) Omega
- D) Pi

16. To find the total distance traveled when speed changes, you use which part of calculus?

A) Subtraction

B) Integration

- C) Multiplication
- D) Division

17. On a graph, the x-axis typically represents what?

A) Time or input

- B) Speed
- C) Height
- D) Weight

18. A 'derivative' helps us find which of the following?

A) The total count

B) The exact rate of change

- C) The size of a shape
- D) The temperature

19. What is the opposite of 'increasing' when describing a slope?

A) Expanding

B) Decreasing

- C) Scaling
- D) Staying

20. Which of these is a real-world application of calculus?

A) Predicting weather patterns

- B) Choosing a shirt color
- C) Sorting books by size
- D) Counting coins in a jar