Edulyte

AVERAGE RATE OF CHANGE FORMULA

The rate of change is the proportion by which value has changed over time. The most important mathematical idea for tracking variations over time is the rate of changes. Divide the distance by the time to get the rate of change. On one side, you may discover the ratio, and on the other, the changes.

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Q1: In mathematics, what is the formula for calculating the average rate of change of a function over an interval?

A: (f(b) - f(a)) / (b - a)
B: (b - a) / (f(b) - f(a))
C: (f(a) - f(b)) / (b - a)
D: (b - a) / (f(a) - f(b))

Q2: What is the formula for calculating average velocity in integral calculus when given a displacement function 's(t)' over an interval [a, b]?

A: (s(b) - s(a)) / (b - a)
B: (b - a) / (s(b) - s(a))
C: (s(a) - s(b)) / (b - a)
D: (b - a) / (s(a) - s(b))

Q3: What is the geometric interpretation of the average rate of change of a function?

A: The slope of the tangent line to the curve at a specific point.
B: The area under the curve over an interval.
C: The rate at which the curve approaches the x-axis.
D: The steepness of the curve.

Q4: What is the usefulness of the average rate of change?

A: Rate of change in average within the specific period
B: Change in position
C: Change in rate of distance only
D: Not defined

Q5: What is the usefulness of average velocity?

A: Rate of change in average within the specific period
B: Change in position
C: Change in rate of distance only
D: Not defined

Q6: What would be the average rate if the changed distance of a car is 6 km within the period of 2 hours?

A: 3 m/s
B: 3 km/s
C: 3 km/h
D: 2 km

Q7: Where can you use the average rate?

A: Economy
B: Temperature
C: Physics
D: All of the above

Q8: Where can you use average velocity?

A: Economy
B: Velocity and distance
C: Sum of numbers
D: Physics

Q9: Average rate of velocity and average rate of change are similar?

A: Yes
B: No

Q10: What is the average velocity?

A: Change in rate of value
B: Change in rate of temperature
C: Change in rate of GDP
D: Change in the position of the object

Answers

Q1: A - (f(b) - f(a)) / (b - a)

Q2: A - (s(b) - s(a)) / (b - a)

Q3: A - The slope of the tangent line to the curve at a specific point.

Q4: A - Rate of change in average within the specific period

Q5: C - Change in rate of distance only

Q6: C - 3 km/h

Q7: D - All of the above

Q8: B - Velocity and distance

Q9: B - No

Q10: D - Change in the position of the object