Rate of Change Quiz

Multiple Choice

Identify the choice that best completes the statement or answers the question.

1. In a linear equation, the independent variable increases at a constant rate while the dependent variable decreases at a constant rate. The slope of this line is
   a. zero
   b. negative
   c. positive
   d. undefined

2. Tara creates a budget for her weekly expenses. The graph shows how much money is in the account at different times. Find the slope of the line. Then tell what rate the slope represents.

   a. The slope is $-50$. The slope means that the amount of money in the account is decreasing at a rate of $50$ every week.
   b. The slope is $-50$. The slope means that the amount of money in the account is decreasing at a rate of $50$ every 2 weeks.
   c. The slope is $-0.02$. The slope means that the amount of money in the account is decreasing at a rate of $0.02$ every week.
   d. The slope is $50$. The slope means that the amount of money in the account is increasing at a rate of $50$ every week.
MULTIPLE CHOICE

1. ANS: B PTS: 2 REF: 080823ia STA: A.A.32
   TOP: Slope
2. ANS: A
   \[ m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{2,000 - 2,400}{12 - 4} = \frac{-400}{8} = -50 \]

In this situation, \( y \) represents the amount of money in the account, and \( x \) represents the time. So the slope represents \( \frac{\text{money}}{\text{time}} \). The slope of \(-50\) means that the amount of money in the account is decreasing at a rate of $50 every week.

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<td>A</td>
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PTS: 1 DIF: Average REF: Page 322 OBJ: 5-4.3 Application
NAT: 12.5.2.c STA: A.A.32 TOP: 5-4 The Slope Formula
Rate of Change Quiz

Multiple Choice
Identify the choice that best completes the statement or answers the question.

1. Tara creates a budget for her weekly expenses. The graph shows how much money is in the account at different times. Find the slope of the line. Then tell what rate the slope represents.

   a. The slope is 50. The slope means that the amount of money in the account is increasing at a rate of $50 every week.
   b. The slope is $-0.02$. The slope means that the amount of money in the account is decreasing at a rate of $0.02$ every week.
   c. The slope is $-50$. The slope means that the amount of money in the account is decreasing at a rate of $50$ every week.
   d. The slope is $-50$. The slope means that the amount of money in the account is decreasing at a rate of $50$ every 2 weeks.

2. In a linear equation, the independent variable increases at a constant rate while the dependent variable decreases at a constant rate. The slope of this line is

   a. positive
   b. negative
   c. zero
   d. undefined
Rate of Change Quiz
Answer Section

MULTIPLE CHOICE

1. ANS: C

\[ m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{2,000 - 2,400}{12 - 4} = \frac{-400}{8} = -50 \]

In this situation, \( y \) represents the amount of money in the account, and \( x \) represents the time. So the slope represents \( \frac{\text{money}}{\text{time}} \). The slope of \(-50\) means that the amount of money in the account is decreasing at a rate of $50 every week.

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<td>A</td>
<td>Look at the graph to see if the slope should be positive or negative.</td>
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<tr>
<td>B</td>
<td>The slope is the change in ( y ) over the change in ( x ), not the change in ( x ) over the change in ( y ).</td>
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<tr>
<td>C</td>
<td>Correct!</td>
</tr>
<tr>
<td>D</td>
<td>One unit of time on the graph represents one week.</td>
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PTS: 1  DIF: Average  REF: Page 322  OBJ: 5-4.3 Application
NAT: 12.5.2.c  STA: A.A.32  TOP: 5-4 The Slope Formula

2. ANS: B  PTS: 2  REF: 080823ia  STA: A.A.32  TOP: Slope
Rate of Change Quiz

Multiple Choice
Identify the choice that best completes the statement or answers the question.

1. In a linear equation, the independent variable increases at a constant rate while the dependent variable decreases at a constant rate. The slope of this line is
   a. negative
   b. zero
   c. undefined
   d. positive

2. Tara creates a budget for her weekly expenses. The graph shows how much money is in the account at different times. Find the slope of the line. Then tell what rate the slope represents.

   a. The slope is \(-50\). The slope means that the amount of money in the account is decreasing at a rate of $50 every 2 weeks.
   b. The slope is \(-0.02\). The slope means that the amount of money in the account is decreasing at a rate of $0.02 every week.
   c. The slope is \(-50\). The slope means that the amount of money in the account is decreasing at a rate of $50 every week.
   d. The slope is 50. The slope means that the amount of money in the account is increasing at a rate of $50 every week.
MULTIPLE CHOICE

1. ANS: A  PTS: 2  REF: 080823ia  STA: A.A.32
   TOP: Slope

2. ANS: C

\[ m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{2,000 - 2,400}{12 - 4} = \frac{-400}{8} = -50 \]

In this situation, \( y \) represents the amount of money in the account, and \( x \) represents the time. So the slope represents \( \frac{\text{money}}{\text{time}} \). The slope of \(-50\) means that the amount of money in the account is decreasing at a rate of $50 every week.

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