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|   |  | The graph shows the distance to thedestination to be travelled by a car from the time the driver leaves home to the time he reaches his destination. Which of the followingbest describes the slope of the line segment?  |

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**Identifying Slope in Mathematical and Contextual Problems**

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|  Anita does the same number of jumping jacks each day over a period of several days. On the 5th day, she has completed a total of 325 jumping jacks. By the 8th day, she has completed a total of 520. What value equals the slope of the line of the total number of jumping jacks when graphed against the day?  | A music service charges a monthly fee plus a fixed amount for each download. One month, Rhonda downloads 12 songs and pays $15.67. The next month, she downloads 15 songs and pays $18.34. At what rate does her bill change with respect to the number of downloads? | In 2010, Little Elm had 3646 residents. Five years later, they had 17,150 residents. If the population grows at this rate, about how many residents will the town have in 2020?.  |
| The **total cost** of renting a banquet hall **is a** **function of** the **number of hours** the hall is rented. The owner of the banquet hall charges $85 per half hour up to a maximum of 4 hours plus a $50 cleaning fee. What is the rate of change of the total cost with respect to the number of hours? | The Algebra 1 team took students with an A average on a field trip each six weeks. The **number of buses needed** to transport the students on each trip **is a function of** the **number of students who were sent on each trip**. This function consists of only the ordered pairs (10, 1), (55, 2), (90, 3) (170, 6), (325, 11), (500, 17). | The **total height h** of a stack of cans **is a** **function of** the **number n of layers of 4 inch cans** used. This situation is represented by h(n) = 4n. Identify the slope. |
| The number of 18-wheelers, W(c), needed to transport c cars in 1 day can be found using the function W(c) = $\frac{c}{20}$ . There are no more than 6,000 cars transported by the 18-wheelers daily. What is the rate of change of number of 18-wheelers with respect to the number of transport cars? | A car can travel 30 miles for each gallon of gasoline. The function ​d(x) = 30x represents the distance​ **d(x), in​ miles**, that the car can travel with **x gallons** of gasoline. The​ car's fuel tank holds 12 gal. | Garrett has 5 bracelets made to sell at the craft fair. After working 3 hours, he has a total of 11 bracelets made to sell at the craft fair. What is the slope, if the number of bracelets made is a function of the number of hours worked? |
| An elephant’s weight starts at 25 kilograms and increases 5 kilograms per month. This situation can be represented by y = 25 + 5x. What is the rate of change of the elephants weight with respect to months? | Your friend needs to gain weight to wrestle in a heavier weight class. His goal is to gain 2 pounds per week. After 3 weeks, his weight is up to 158 pounds. Which below represents the slope? | The Galveston Island Trolley weighs 63,000 pounds. It travels 25 miles per hour on 6.7 miles of track and costs $0.60 for adults and $0.30 for children. What is the slope of the equation that describes the distance travelled by the trolley over a period of time? |
| Samuel runs around a 100-meter track. He uses the linear equation y = 200 + 5x to describe how far he runs after he has already jogged two laps. If meters is a function of time in seconds, find the slope. |