Name:	Date:	Period:
Rate of Change		

Slide 2 - Text Response	Your Response
Bell work – 8/16/2016	
• Given: (1, –19), (–2, –7).	
 Find the slope of the line passing through these coordinate points. 	
What is the y-intercept?	
Find the equation for the line.	

Slide 3 - Text Response	Your Response
Review System of Equations • A farm raises a total of 220 chickens and pigs. The number of legs of the stock in the farm totals 520. How many chickens and pigs are at the farm?	
 Write an equation representing the total of chicken and pig. Write and equation representing the total number of legs for chicken and pig. 	

Slide 4 - Text Response	Your Response
Review System of Equations	
 Solve the system of equations to find how many chicken and pigs in the farm. 	
Number of chicken:	
Number of pigs:	

Slide 7

Rate of change is often used when speaking about momentum. It is generally expressed as a ratio between a change in one variable relative to a corresponding change in another. Rate of change (average rate of change) is constant. Algebraically, the rate of change is represented by the slope of a line.

Slide 8 - Drawing	Your Response
Rate of Change • What are the ways to represent the rate of change? • How do you express the slope of the line?	

Slide 9

Rate of Change: Word Problem

Example 1

- A climber is on a hike. After 2 hours he is at an altitude of 400 feet. After 6 hours, he is at an altitude of 700 feet. What is the average rate of change?
- Identify the type of change and record the values.
- · Apply the slope formula and calculate the rate of change.

Slide 10
Rate of Change: Word Problem
Change in altitude over time.(2, 400) and (6, 700)
• <i>m</i> = •
 Average rate of change is per

Rate of Change • How would you predict the altitude after hiking for 10 hours?	Slide 11 - Text Response	Your Response
	Rate of Change • How would you predict the altitude after	

Slide 12 - Text Response	Your Response
Rate of Change: Word Problem Example 2 • A scuba diver is 30 feet below the surface of the water 10 seconds after he entered the water and 100 feet below the surface after 40 seconds. What is the scuba divers rate of change? • Type of change? • Slope?	

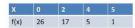
Slide 13 - Text Response	Your Response
 Rate of Change: Word Problem Practice 1 A rocket is 1 mile above the earth in 30 seconds and 5 miles above the earth in 2.5 minutes. What is the rockets rate of change in miles per second? What about miles per minute. 	

Slide 14

Rate of Change: Table of Value

Example 3

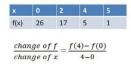
- Find the Average Rate of Change from a Table
- The table below defines the relationship y = f(x)



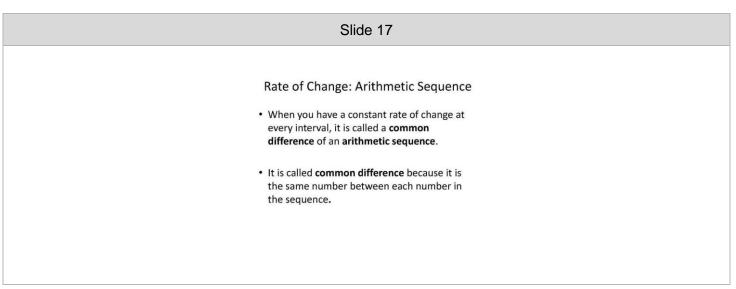
• Find the average rate of change of f with respect to x over [0, 4].

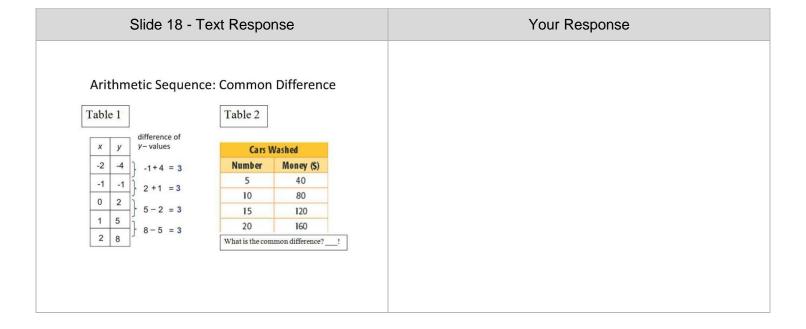
Slide 15

Rate of Change: Table of Value



Slide 16 - Text Response	Your Response
Rate of Change: Table of Values Practice 2 • The average price for a ticket to a movie theater in North America for selected years is shown in the table below. Vear 1987 1991 1995 1999 2003 2007 Price 3.91 4.2 4.35 5.06 6.03 6.88 • Find the rate of change over the interval [2, 5].	





Slide 19 - Multiple Choice	Your Response
Arithmetic Sequence: Common Difference What is the common difference?! Temperature Ice Cream Sales 85 \$200 71 \$160 84 \$170 666 \$120 77 \$120 75 \$180 68 \$100 91 \$230 \$230	Available Choices: • 40 • 10 • 50 • 20 • 0 • There is no common difference

Slide 20 - Text Response					Your Response
thmetic	Seguence	: Common	Differen	ce	
		from these tables of v			
4	_				
Table 1		Table 2			
x	У	x	У		
0	3	0	3		
1	8	1	15		
2	13	2	75		
3	18	3	375		
4	23	4	1,875		
		'			

Rate of Change: Video • Average Rate of Change Example 4 • For f(x) = x² - 2, find the rate of change on the interval [-2, 4].