AP Calc Warm Up – 9/29/10

Name:_____ Block:_____

1) If a car travels 50 miles in 1 hour what was its velocity?

2) If a car travels 80 miles in 2 hours what was its velocity?

AP Calc Warm Up – 9/29/10

Name:_____ Block:_____

1) If a car travels 50 miles in 1 hour what was its velocity?

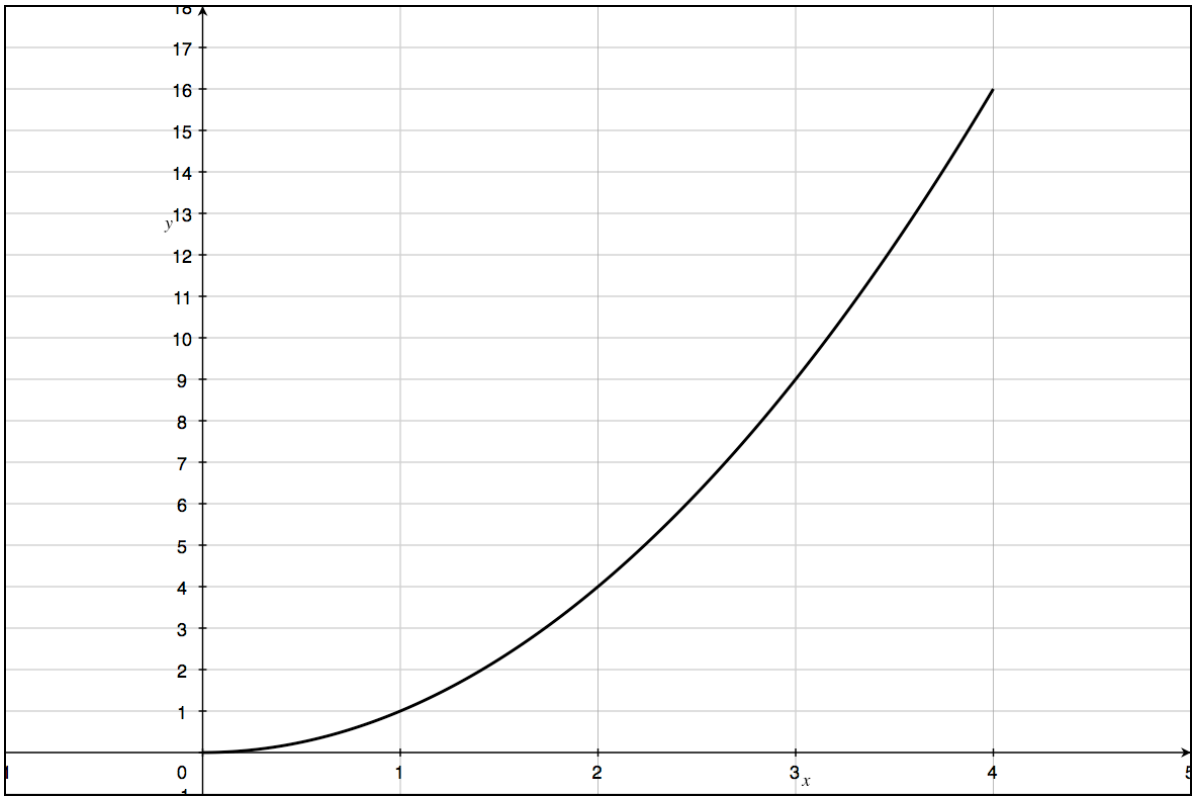
2) If a car travels 80 miles in 2 hours what was its velocity?

Average Rate of Change
PROBLEM SOLVER

Name:_____Date:_____Period:_____

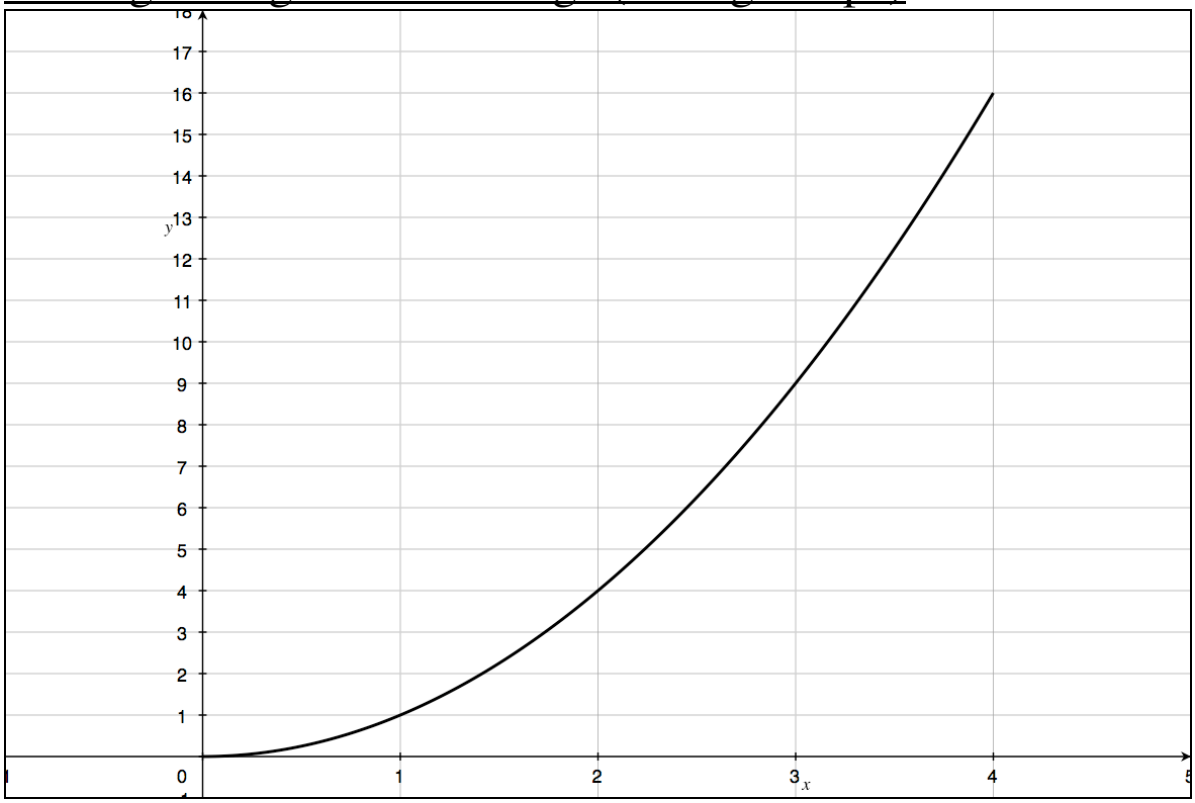
Concept – Students will be able to find the average velocity given the graph of a nonlinear function representing position versus time.

A car leaves a red light and the driver keeps track of the how far the car is from the red light at each second for the interval [0,4]. The results are graphed below where the x-axis is measured in seconds and the y-axis is measured in meters.



What was the velocity of the car over the entire 4 seconds?

Finding average rate of change (average slope)

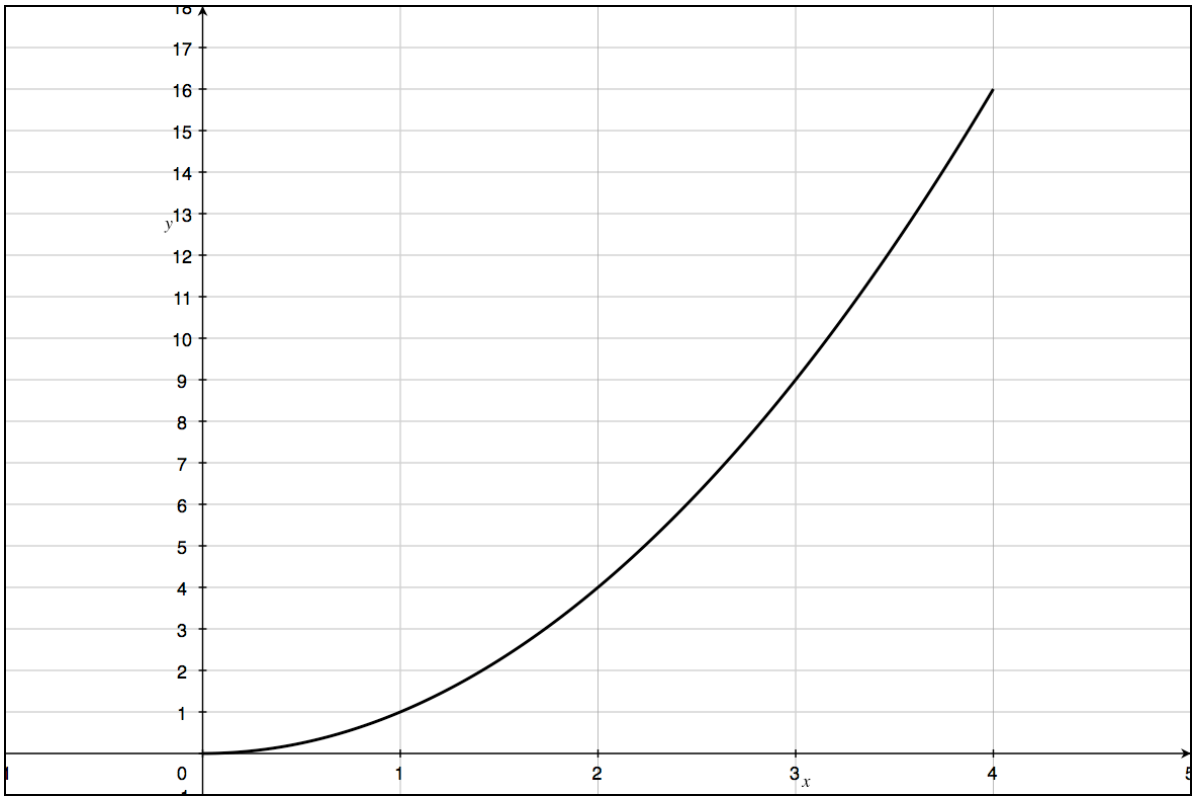


Find the average velocity of the car on the interval from x=1 to x=3.

Change in y:

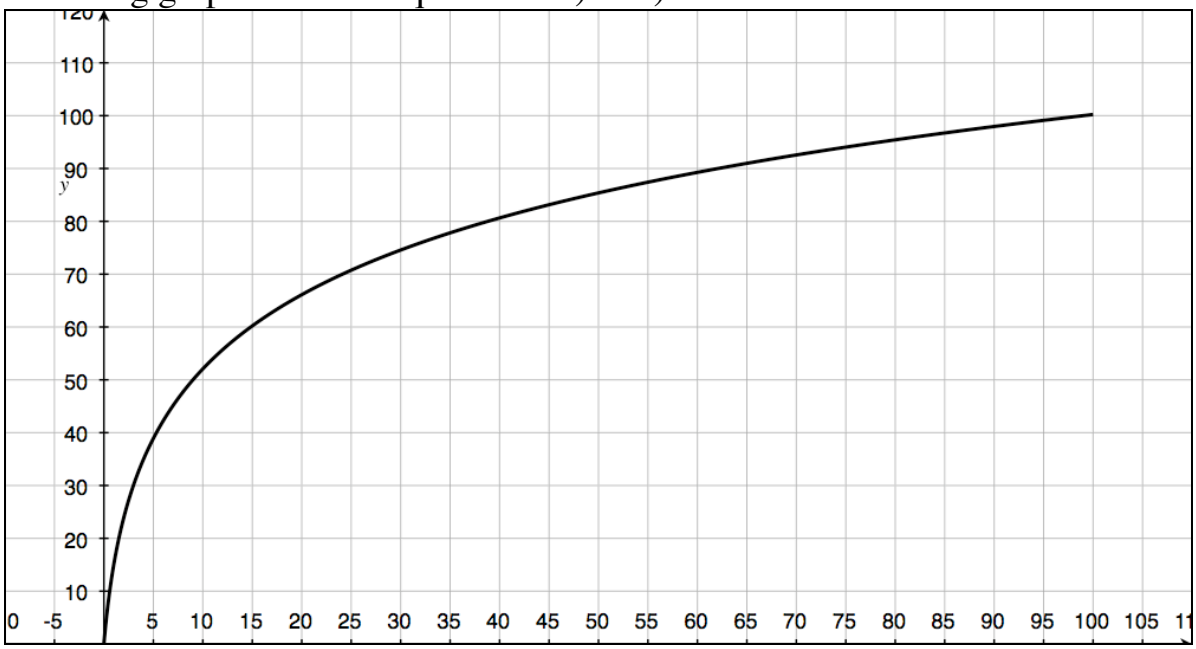
Change in x:

In your pairs, find the average velocity of the car on the interval from x=1 to x=4



PRACTICE

The following graph represents the distance a person runs in 100 seconds. The x-axis is measured in seconds and the y-axis is measured in meters. Use the following graph to answer questions 1) to 4)



1) Is the distance the person is traveling increasing, decreasing or neither?

2) Find the average velocity for x=0 to x=40 and be sure to include the proper units.

3) Find the average velocity for x=5 to x=20 and be sure to include the proper units.

4) Find the average rate of change for x=20 to x=40 and be sure to include the proper units.

Mr. M forgets to set the brake in his car and it rolls down a slight hill backwards toward a giant cliff. The distance from the edge of the cliff (in meters) is graphed on the y-axis and time (in seconds) in graphed on the y-axis.

1) Is the car's distance to the cliff increasing, decreasing or neither?

2) Does the car fall off the cliff?

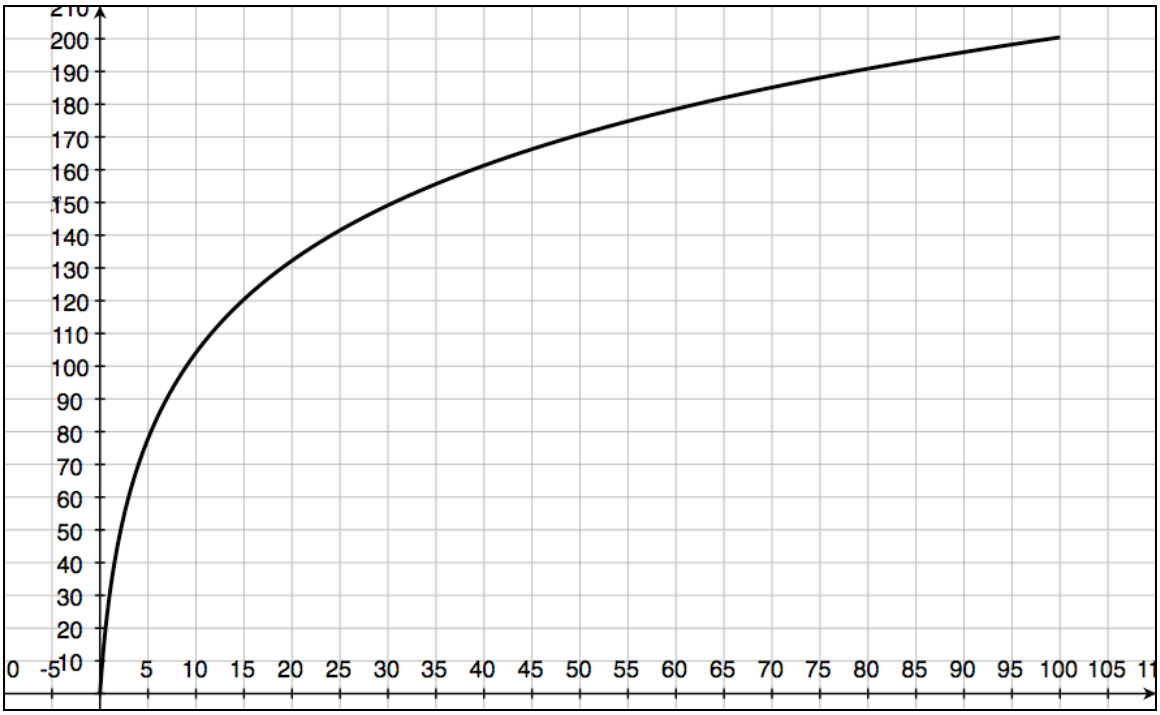
3) Find the average velocity of the car for x=1 to x=5 and include proper units.

4) Find the average rate of change for x=5 to x=10 and include proper units.

AP Calc – Exit Slip – 9/29/10

Name:_____ Period:_____

1) Mr. Monte-Sano rides is bike in a straight line and keeps track of his distance from where he started (in meters) versus time (in seconds).



a. Is the function increasing, decreasing or neither?

b. Find Mr. Monte-Sano's average velocity between $t = 0$ and $t = 100$?

c. Find Mr. Monte-Sano's average velocity between $t = 0$ and $t = 30$?

d. Is Mr. Monte-Sano's average velocity greater over the interval $[0,100]$ or the interval $[0,30]$?