

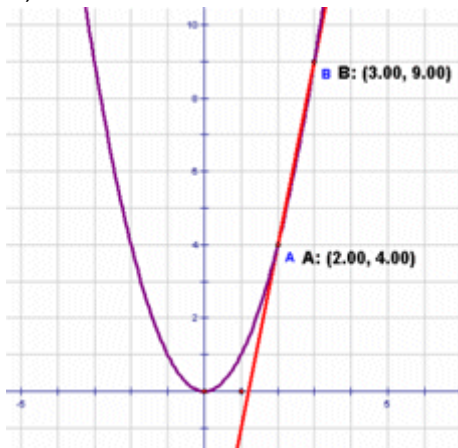
## Unit 5: Characteristics of Functions

### Activity 1: Average Rates of Change

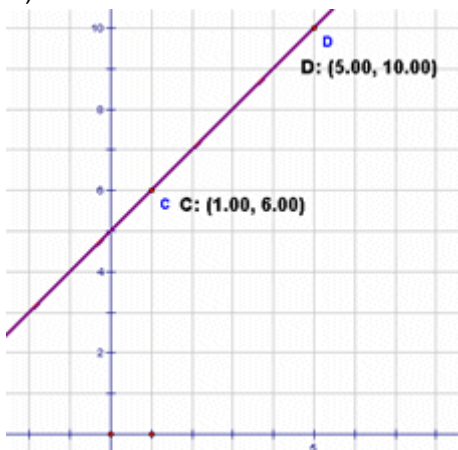
#### Homework/Formative Assessment

1. Determine the average rate of change between each of the indicated points:

a)



b)



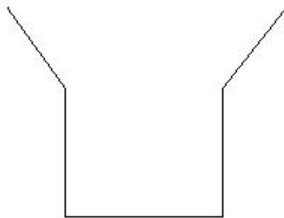
2. Tim drove from Toronto, Ontario to Montreal, Quebec to see his beloved Maple Leafs play against the Montreal Canadians. If the 542 km trip took him a total of 6 hours, with a stop for gas and lunch, determine Tim's average speed.

3. Water is being poured into each of the following containers. Draw a sketch of the height of the water versus time for each:

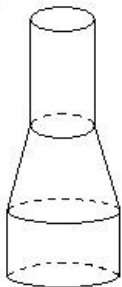
a)



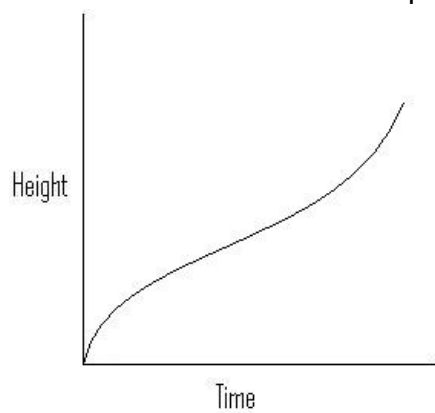
b)



c)



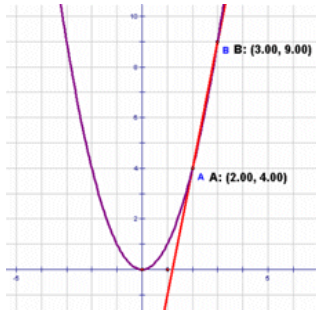
4. Draw a container that could produce the following graph:



## Homework/Formative Assessment SOLUTIONS

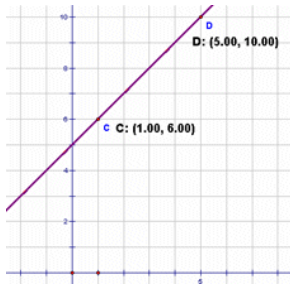
1. Determine the average rate of change between each of the indicated points:

a)



$$\begin{aligned} A.R.O.C. &= \frac{f(x_2) - f(x_1)}{x_2 - x_1} \\ &= \frac{9 - 4}{3 - 2} \\ &= \frac{5}{1} \\ &= 5 \end{aligned}$$

b)



$$\begin{aligned} A.R.O.C. &= \frac{f(x_2) - f(x_1)}{x_2 - x_1} \\ &= \frac{10 - 6}{5 - 1} \\ &= \frac{4}{4} \\ &= 1 \end{aligned}$$

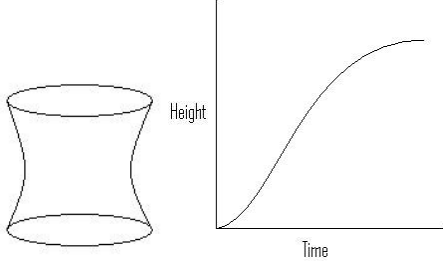
2. Tim drove from Toronto, Ontario to Montreal, Quebec to see his beloved Maple Leafs play against the Montreal Canadians. If the 542 km trip took him a total of 6 hours, with a stop for gas and lunch, determine Tim's average speed.

$$\begin{aligned} A.R.O.C. &= \frac{\text{distance travelled}}{\text{time}} \\ &= \frac{542}{6} \\ &= 90.3 \end{aligned}$$

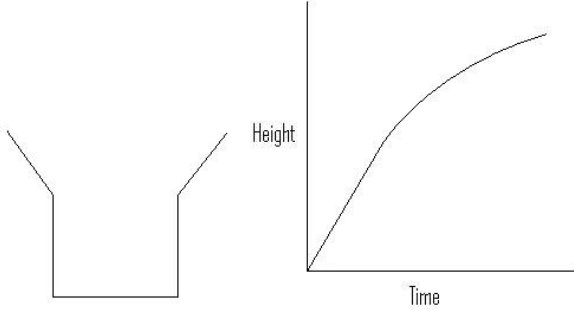
Tim's average speed was 90.3 km/h

3. Water is being poured into each of the following containers. Draw a sketch of the height of the water versus time for each:

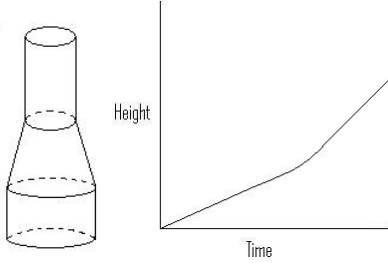
a)



b)



c)



4. Draw a container that could produce the following graph:

