Math 115E Activity 8

Chapter 4 Section 1
Average Rate of Change

Definition. *The Average Rate of Change of a function $f(x)$ between two x-values $x = a$ and $x = b$ in the form $[a, b]$ is defined by: Average rate* $= \frac{f(b)-f(a)}{b-a}$

We can use this definition for x-values from a graph, table, or the function itself
Lets define a function $f(x) = x^2 + x - 1$. As an example lets use the interval $[-1, 2]$
This would now give us $\frac{f(2)-f(-1)}{2-(-1)} = \frac{(5)-(-1)}{3} = \frac{6}{3} = 2$. So on $[-1, 2]$ the average rate of change is 2.

For each question, find the average rate of change on the given interval using the same function as above

1. The average rate of change on $[-1, 1]$

2. The average rate of change on $[-1, 0]$

3. The average rate of change on $[-5, 6]$

4. The average rate of change on $[-2, 3]$

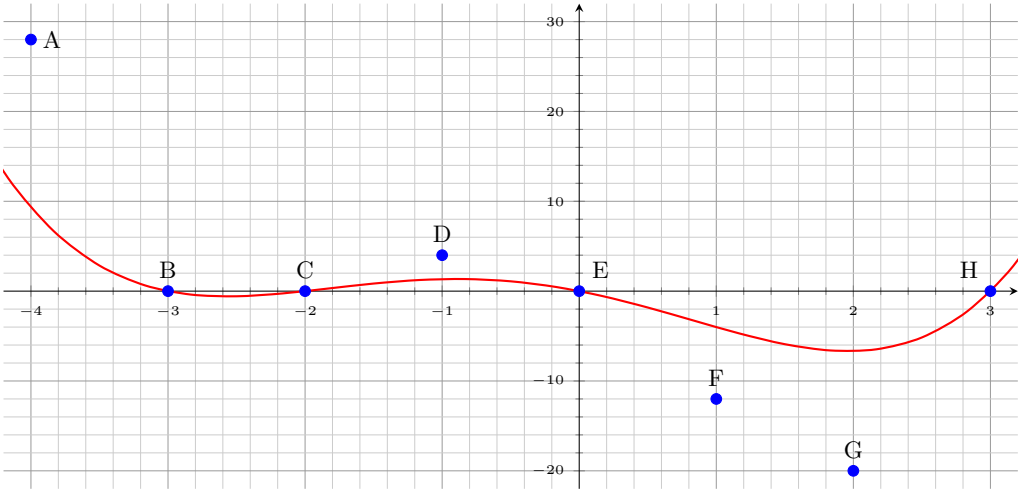
5. The average rate of change on $[-10, 0]$

6. The average rate of change on $[-4, 7]$

7. The average rate of change on $[-3, 2]$

8. The average rate of change on $[-6, 3]$

Find the average rate of change between two Points, label each coordinate then go from there



1. The average rate of change between the points A and B

2. The average rate of change between the points A and H

3. The average rate of change between the points B and E

4. The average rate of change between the points B and D

5. The average rate of change between the points E and G

6. The average rate of change between the points F and H

7. The average rate of change between the points D and G

8. The average rate of change between the points C and F