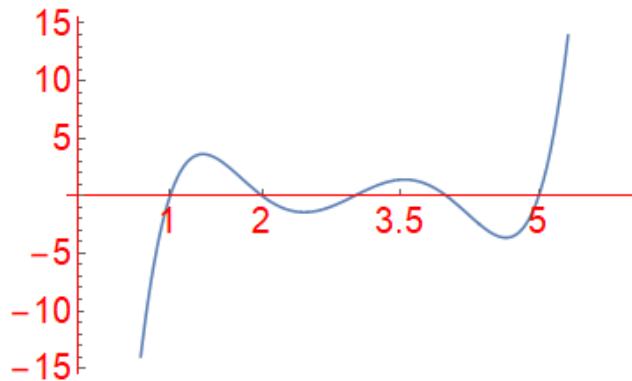


**For full credit you must show your work. Partial credit may be given for incorrect solutions if sufficient work is shown.**

1. Write the formula for the average rate of change (ARC) of a function  $f$  on the interval  $[a, b]$ . (4 pts)
2. Write the formula for the instantaneous rate of change (IRC) of a function  $f$  at  $x$ . (4 pts)
3. Consider the function  $f$  which is graphed below.



From the graph, determine whether the derivative is positive, negative, or approximately zero at each of the following values for  $x$ . (2 pts)

$x = 1$

$x = 2$

$x = 3.5$

$x = 5.$

4. Bonus (1 pt): Find the equation of the line passing through the two points

$(1, 2) \quad \text{and} \quad (5, 10).$