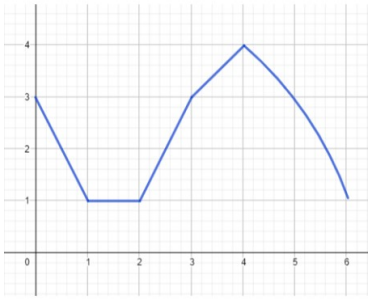
ACMAT117 Fall 2024
Professor Manguba-Glover
Homework 3 Name: _____

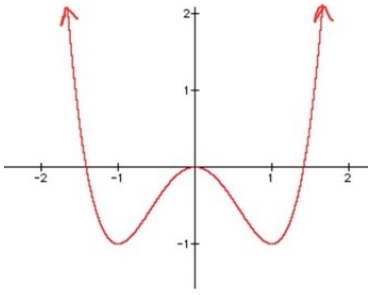
Show all work and simplify all answers before circling/boxing them. If you do the problem incorrectly, or don't show sufficient work, you will be asked to rewrite the problem for full credit.

Due next class. Students who turn assignments in late (or do not attempt a problem) forfeit their ability to rewrite those problems for credit.

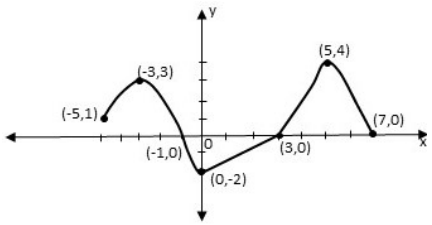
1. Find the slope of the line passing through the following pair of points, if possible: $(4, 6), (2, 5)$
2. Find the slope of the line passing through the following pair of points, if possible: $(12, -8)$, $(7, -8)$
3. Find the slope of the line passing through the following pair of points, if possible: $\left(\frac{-13}{15}, -\frac{7}{8}\right)$, $\left(\frac{1}{10}, \frac{3}{16}\right)$ (I hope you remember your fraction math!)
4. Use the graph to determine where the function is increasing and where it is decreasing:



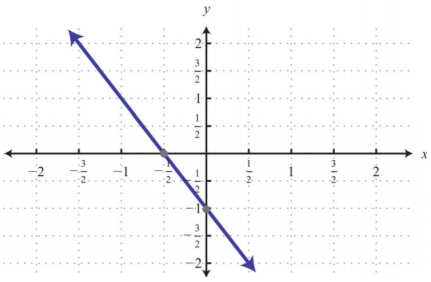
5. Use the graph to determine where the function is increasing and where it is decreasing:



6. Determine the x and y intercepts of the following graphs



(a)



(b)

7. Compute the average rate of change of $f(x) = 7x - 2$ from $x = 1$ to $x = 4$
8. Compute the average rate of change of $\sqrt{2x-1}$ from $x = 1$ to $x = 3$
9. Compute the difference quotient for $f(x) = -3x + 4$
10. Compute the difference quotient for $f(x) = -6x^2 - x + 4$