Math 190   Midterm 3

Name: _____

1. (5 points) Evaluate $f(1 - h)$ when $f(x) = x + x^2$. Simplify your answer.
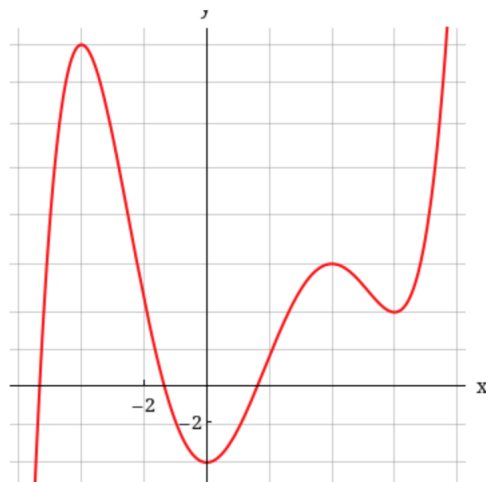
1. _____

2. (5 points) Evaluate $h(\frac{1}{2})$ when $h(t) = t - \frac{5}{t}$.

2. _____

3. (5 points) Determine the net change of $r(t) = t^2$ between $t = -1$ and $t = -1 + h$.

3. _____

4. (5 points) Sketch the graph of $y = \sqrt{x - 8}$ not by plotting points but by starting with the graph of a standard function and applying transformations.

5. (5 points) The graph of a function is given. Find the intervals on which the function is increasing. Express your answer in interval notation on the answer line.

5. _____

6. (5 points) Evaluate $g(f(3))$ when $f(x) = 3x - 2$ and $g(x) = 5 - x^2$

6. _____

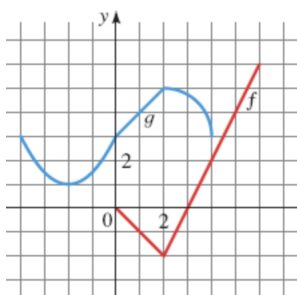7. (5 points) Evalute $f^{-1}(-26)$ when $f(x) = x^3 - 18$.

7. _____

8. (5 points) Sketch the graph of $f(x) = -4|x| + 2$ by first making a table of values.

9. (5 points) Find the maximum or minimum value $f(x) = x^2 + 8x$. Indicate whether it is a maximum or a minimum on the answerline.

9. _____

10. (5 points) Use $f(x) = x - 2$ and $g(x) = 4 - x^2$ to evaluate $(f \circ g)(x)$. Simplify your answer.

10. _____

11. (5 points) Use the graphs of f and g to evaluate $g(f(2))$

11. _____

12. (5 points) Sketch the graph of $y = |x - 11| - 1$ not by plotting points but by starting with the graph of a standard function and applying transformations.