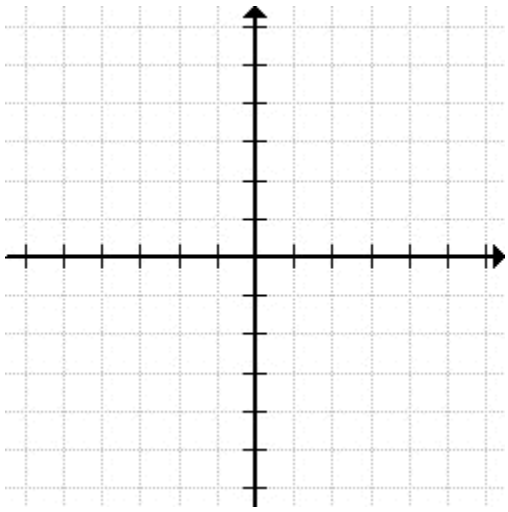
NAME _____

MAT 150 – Homework 4
Sections 1.3 and 1.4

Directions: Show all work and write your final answer in the space provided.

1. If $f(x) = -6x + 7$, find the average rate of change from –2 to 4. 1. _____

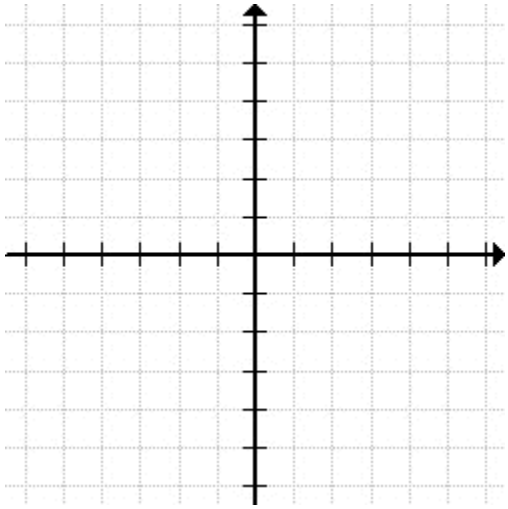
2. Graph $f(x) = \begin{cases} -2x + 3 & \text{if } x < 0 \\ x - 2 & \text{if } x \geq 0 \end{cases}$



3. Determine if the function $g(x) = -2x^3 + 5x$ is even, odd, or neither. 3. _____

4. If $f(x) = 3x^2 - 5x + 1$, find the average rate of change from 2 to 4. 4. _____

5. Graph $g(x) = \begin{cases} -x^2 + 1 & \text{if } x < 1 \\ 2 & \text{if } x = 1 \\ 1 - 2x & \text{if } x > 1 \end{cases}$

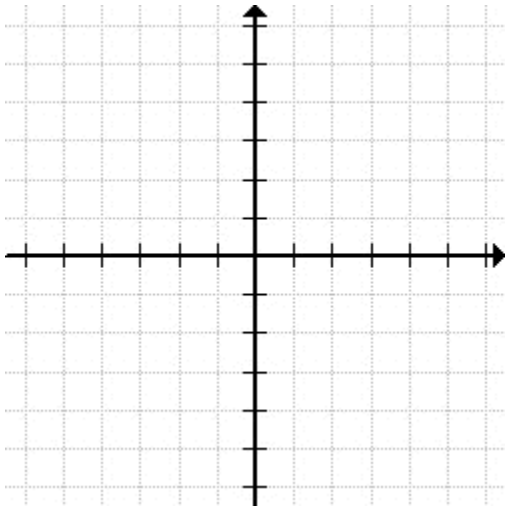


6. Determine if the function $f(x) = \dfrac{x}{x^2 - 4}$ is even, odd, or neither. 6. _____

7. If $h(x) = 4x + 5$, find the average rate of change from 2 to x. 7. _____

8. Determine if the function $f(x) = -4x^2 + 2x$ is even, odd, or neither. 8. _____

9. Graph $h(x) = \begin{cases} x - 2 & \text{if } -3 < x < -1 \\ -2x & \text{if } -1 \le x < 2 \\ x + 1 & \text{if } x \ge 2 \end{cases}$

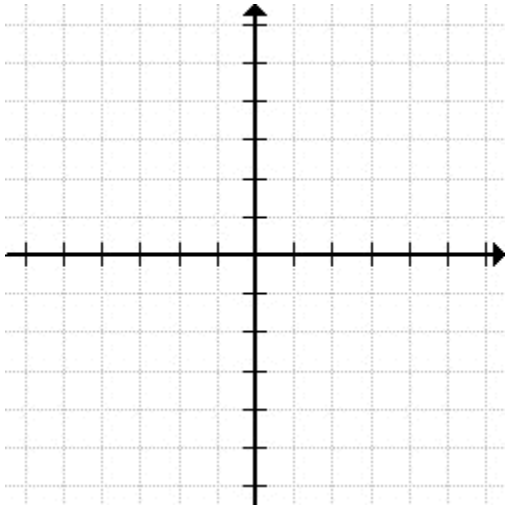


10. If $f(x) = x^3 - 5x$, find the average rate of change from -1 to 2. 10. _____

11. Determine if the function $f(x) = \dfrac{4x}{|x|}$ is even, odd, or neither. 11. _____

12. If $f(x) = 2x^2 - 3x$, find the average rate of change from 1 to x. 12. _____

13. Graph $f(x) = \begin{cases} |x| & \text{if } x > 1 \\ -x^2 + 3 & \text{if } x \le 1 \end{cases}$



14. If $f(x) = x^2 - 3$, find the equation of the secant line containing the points (1, f(1)) 14. _____

and (3, f(3)).

15. If $f(x) = 2x^2$, find the average rate of change from x to x + h. 15. _____