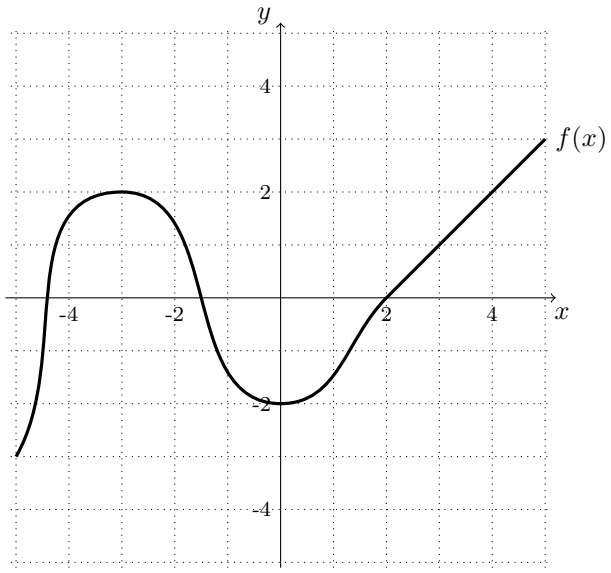
2. [10 points] A portion of the graph of $y = f(x)$ is given below. **You do not need to show any work for this problem**.



a. [2 points] For which values of x must $f(x)$ be decreasing? Use only the information provided in the graph above, and write your answer *in the space provided, using inequalities or interval notation.*

$f(x)$ is decreasing on _____

b. [2 points] Let $g(x) = f(x + 5) - 8$. For which values of x must $g(x)$ be decreasing? Use only the information provided in the graph above, and write your answer *in the space provided, using inequalities or interval notation.*

$g(x)$ is decreasing on _____

c. [4 points] On which of the following intervals is the average rate of change of $f(x)$ the greatest? On which of the following intervals is it the least? Write your answers *in the spaces provided.* (Note: *greatest* and *least* do **not** mean largest and smallest in absolute value.)

$[-4, -1.5]$ $[-3, 0]$ $[-4, 4]$ $[2, 4]$ $[-5, 5]$

The average rate of change is the greatest on _____, *and the least on* _____

d. [2 points] The line $y = 7$ is a horizontal asymptote for the graph of $y = f(x)$ (note that this is not shown in the graph above). Find the equation(s) of the horizontal asymptote(s) of the graph of $y = f(x - 10) + 4$ and write your answer(s) *in the space provided*, or **circle** THE GRAPH HAS NO HORIZONTAL ASYMPTOTES if appropriate.

Horizontal asymptote(s): _____

THE GRAPH HAS NO HORIZONTAL ASYMPTOTES