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.

$$
f(x) \text { is decreasing on }[-3,0]
$$

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.

$$
g(x) \text { is decreasing on }[-8,-5]
$$

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.)

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

The average rate of change is the greatest on $\qquad$ , and the least on $\qquad$ $[-3,0]$
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): $\qquad$ THE GRAPH HAS NO
HORIZONTAL ASYMPTOTES

