Math 4 Honors Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Lesson 6-2 Learning Check Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

In this learning check, you will be assessed on the following concepts:

* *I can use the definition of derivative to find f’(x) for any function f(x) and any value of x.*
* *I can use the derivative of a function to solve problems.*

Let *f* be the function .

1. Use the *definition of derivative* to find. ***Work vertically; do not skip any steps.***

2. Find the derivative of the function when *x =* -8. Is *f* increasing or decreasing when *x =* -8?

Without looking at the graph, how do you know?

3. Describe in words the graphical meaning of *f’*(-8).

4. Write the equation of the tangent line where *x* = 4.