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

Lesson 6-4 Learning Check Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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

* *I can find derivatives using the Power Rule.*
* *I can use derivatives to find the velocity and acceleration of a moving object and solve problems involving particle motion.*



1. Find .

2.  Find . Write your final answer in radical form.

3.  Write your final answer in rational form.

4. A particle moves on a number line and its position at time *t* is given by:



**a.** Write an expression for the velocity and the acceleration of the particle at any time *t*.

**b.** When is the particle at rest?

**c.** When is the particle moving to the right? (*NLA*)

**d.** When is the acceleration positive?

**e.** What is the total distance traveled by the particle from *t* = 0 to *t* = 5?