

Name: _____

Date: _____

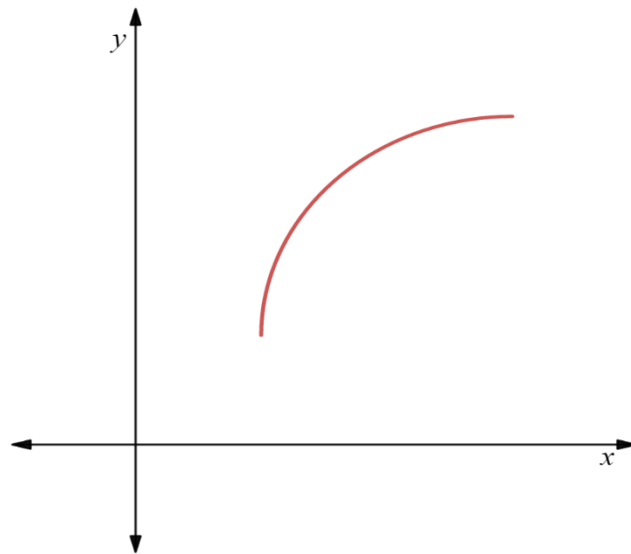
Learning Goal 3.3

Creating confidence in (baby) word problems.

There are two kinds of rate of change that we use to solve application problems:

1.

2.

**Most Common Physical Example**

Example The position of a particle is given by the equation $s(t) = t^3 - 6t^2 + 9t$

- a. What is the velocity of the particle at any time t ?
- b. What is the velocity of the particle after 2 seconds? After 4 seconds?
- c. What is the average velocity of the particle from 2 seconds to 4 seconds?
- d. When is the particle at rest?
- e. When is the particle moving forward?
- f. Find the total distance traveled by the particle during the first 5 seconds.
- g. Find the acceleration at time t and after 4 seconds.
- h. When is the particle speeding up? When is it slowing down?