Acceleration

Acceleration = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Acceleration is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_­­­­\_\_

of an object. If the object’s velocity is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, it is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

If an object is still moving but it’s velocity remains constant, it is not accelerating.

Formula’s for Acceleration:

since Δv = vf – vi , we get

 and

Units for Acceleration:

 a = change in velocity (measured in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_) divided by time (measured in \_\_\_\_\_\_\_\_\_\_)

 so, a = m/s/s………… which is the same as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Units for acceleration is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Practice:

1. A car has an initial velocity of 10 m/s, accelerates at a rate of 5 m/s2 for 3 seconds. What is its final velocity?

Write givens: Formula:

 Plug in numbers:

 Answer:

1. A lizard running at 2 m/s takes 4 seconds to increase his speed at 10 m/s. What is the lizard’s acceleration?

Write givens: Formula:

 Plug in numbers:

 Answer:

1. Amber moves her desk to the door in 17 seconds. Her velocity changes from rest (0 m/s) to 0.5 m/s. What is Amber’s acceleration?

Write givens: Formula:

 Plug in numbers:

Answer:

1. A cyclist accelerates from 0 m/s to 8 m/s in 3 seconds. What is the acceleration?

Write givens: Formula:

 Plug in numbers:

 Answer:

1. A car going 30 m/s accelerates at a rate of 3 m/s2 for 5 seconds. What is the car’s final velocity?

Write givens: Formula:

 Plug in numbers:

 Answer: