

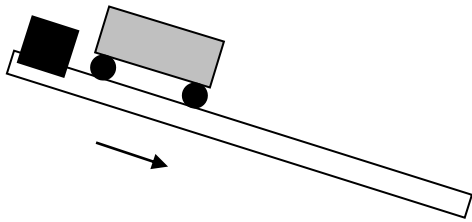
Physics
Constant Acceleration Graphs
(using motion detectors)

Name _____
Date _____

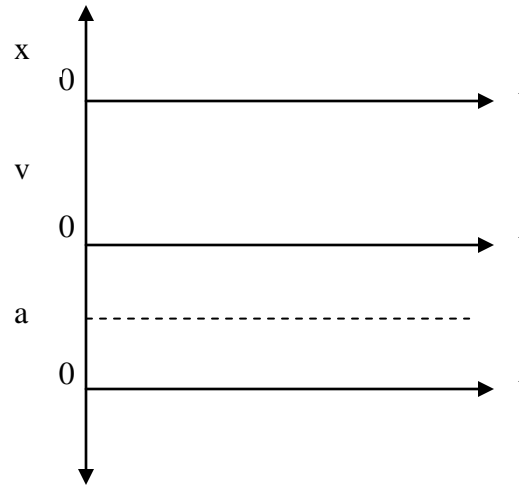
Directions – The following scenarios illustrate ways to look at, interpret and understand constant acceleration. From the picture provided, qualitatively sketch the corresponding position, velocity and acceleration vs. time graphs. Also include a written description to describe the motion.

SCENARIOS

Scenario 1 – Allow the cart to roll down the incline according to the following set-up:



GRAPHS



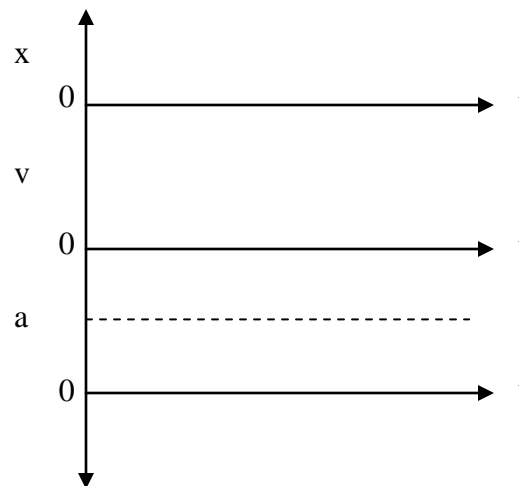
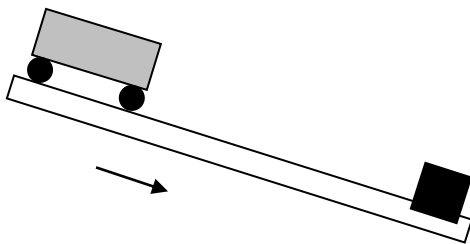
WRITTEN DESCRIPTIONS

x vs. t –

v vs. t –

a vs. t –

Scenario 2 – Allow the cart to roll down the incline according to the following set-up:



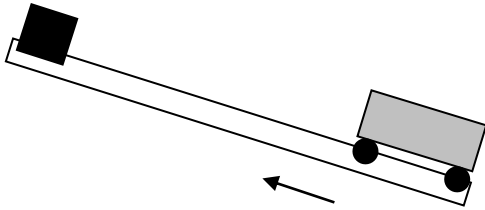
x vs. t –

v vs. t –

a vs. t –

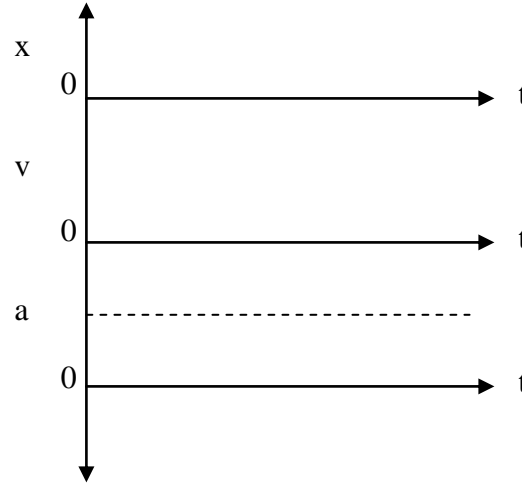
SCENARIOS (continued)

Scenario 3 – Push the cart up the incline according to the following set-up:



Only look at the upward motion!

GRAPHS

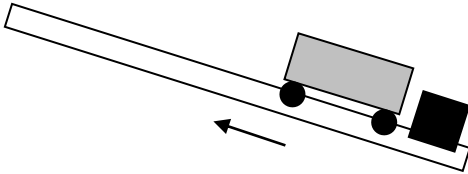


x vs. t –

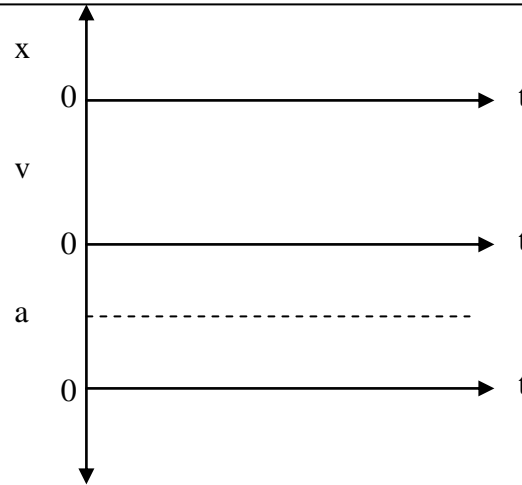
v vs. t –

a vs. t –

Scenario 4 – Push the cart up the incline according to the following set-up:



Only look at the upward motion!

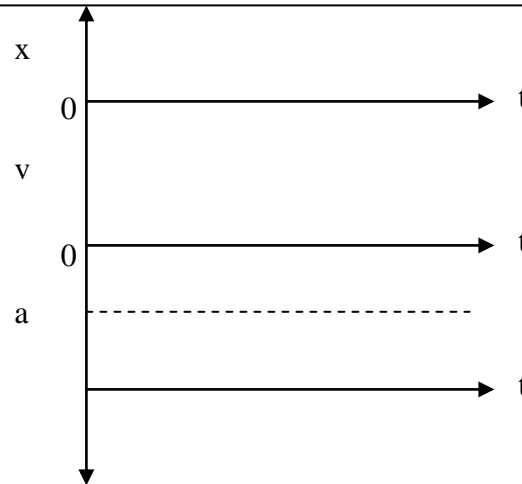
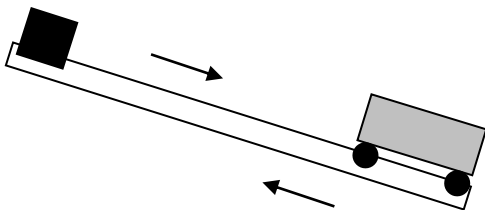


x vs. t –

v vs. t –

a vs. t –

Scenario 5 – Push the cart up the incline and allow it to roll back down according to the following set-up:



x vs. t –

v vs. t –

a vs. t –