

# Time, Speed, & Distance

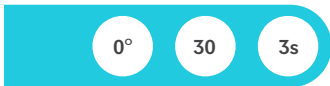
In linear relationships, any given change in an independent variable will always produce a corresponding change in the dependent variable.

## TEST 1: Time & Distance

In this first set of tests, **time** will be the independent variable and since you will be measuring the distance Sphero travels each time, **distance traveled** will be the dependent variable.

Create a new **Blocks** program and add a single roll block. For each test, use the settings specified below. Use the same starting point each time. Measure the distance traveled and record your answers in the spaces provided.

a)



How far did Sphero travel?

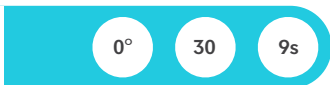
\_\_\_\_\_ cm

b)



\_\_\_\_\_ cm

c)



\_\_\_\_\_ cm

What patterns do you see in the data. Example: For every 3 seconds Sphero travels, how do the distances compare?

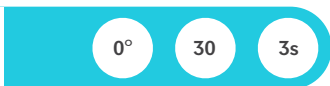
---

## TEST 2: Speed & Distance

The next set of tests, **speed** will be the independent variable and since you will be measuring the distance Sphero travels each time, **distance traveled** will be the dependent variable again.

Use the same **Blocks** program used above, but use the new settings specified below for each test. Use the same starting point each time. Measure the distance traveled and record your answers in the spaces provided.

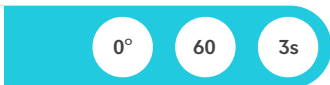
d)



How far did Sphero travel?

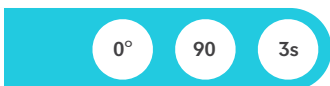
\_\_\_\_\_ cm

e)



\_\_\_\_\_ cm

f)



\_\_\_\_\_ cm

2) What patterns do you see in the data? Example: As speed increases how does the distance traveled in the same amount of time compare?

---

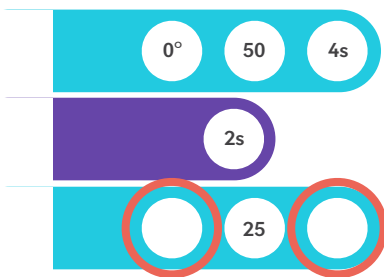


## Challenge

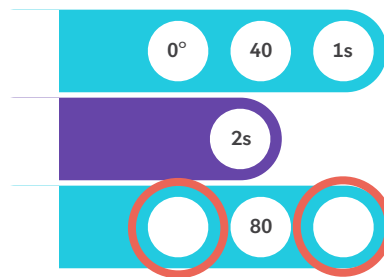
You will now create a program that will roll Sphero out a certain distance, pause, turn around and then return to where it started.

You must use the blocks as you see them below in your program. Your **challenge** is to use what you have learned about the relationship between time, speed, and distance to figure out the missing settings in the second roll block.

### PART 1



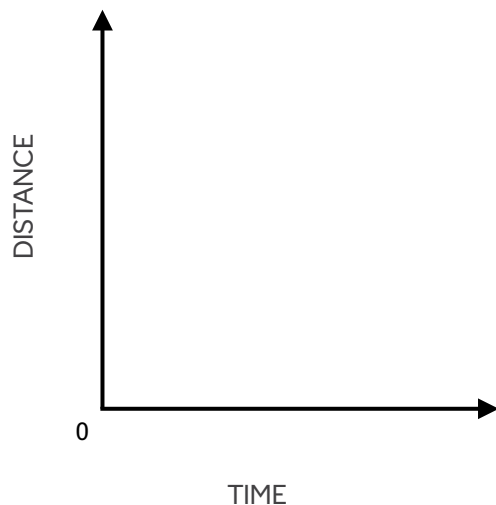
### PART 2



## Extension Activity

Use the space below to graph the relationship between the independent and dependent variables from both Test 1 and Test 2. Each axis of the graph is labeled for you.

### TEST 1



### TEST 2

