Motion Review

What to know!

Vectors

- Define **scalar and vector** and provide/identify examples of each.
- Determine the **resultant vector** (magnitude, direction, and angle) through:
  - Graphing method (ruler/protractor)
  - Pythagorean ($side^2 + side^2 = hyp^2$)

Vectors

- Understand that vectors can be added in any order as long as they are added tip to tail!
- Resultant vectors go tail-tail from start point and tip-tip at ending point
- Measure the angle/direction where the two tails meet

Motion

- Speed = distance/time
- Velocity = displacement/time
- Calculate speed when given D and T
- Calculate distance when given S and T
- Calculate time when given D and S

Motion

- Calculate average speed
  - Total distance/total time
- Calculate average velocity
  - Total displacement/total time

Acceleration

- Calculate average acceleration
- $a = (V_f - V_i) / t$

- Calculate t when given a, V_f and V_i
- Calculate Vf when given a, t, and V_i

Motion Graphs

- Calculate the slope of a distance vs time graph
- Calculate the slope of a velocity vs time graph
- Write a good description of motion based on graph
- Create a graph based on a word description of motion