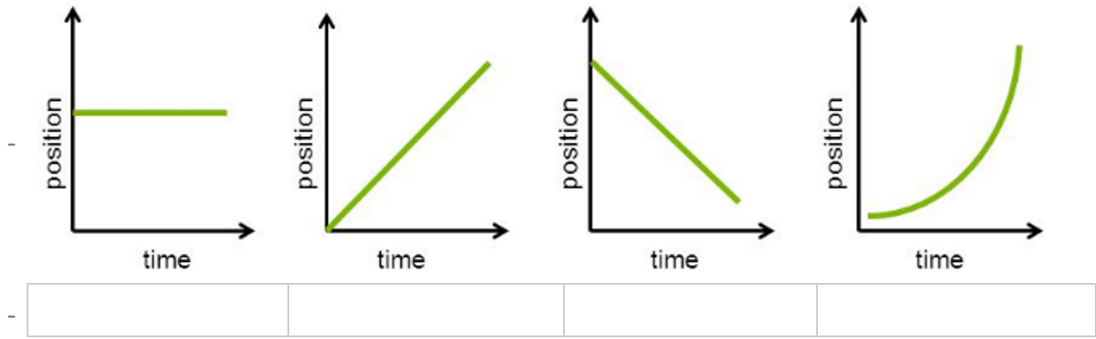


# P5 Physics Quiz Review

March 2, 2020 7:49 AM

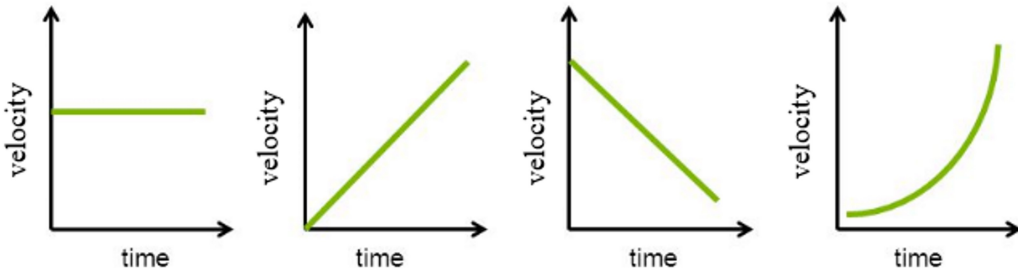
## Physics Unit Review

- **Intro**
  - Unit conversion
    - See formula sheet for what is provided.
      - Remember to set up equivalent fractions for this.
    - Know how to convert units of time and distance
      - Ex: 325 m = \_\_\_\_\_ km
      - Ex: 65 min = \_\_\_\_\_ hr
- Time and time intervals
  -
- Scalar vs. Vector
  - Know the difference between the two, and which values need a direction or not.
    - **Scalar:**
    - **Vector:**
- **Kinematics**
  - Distance vs Displacement
    - Know the difference between the two (be able to state what they are).
    - Take note displacement ( $\Delta d$ ) is the change in position (final – initial)
    - Know how to calculate both from word problems
      - **Distance**
      - **Displacement**
  - Speed vs Velocity
    - Know the difference between the two (be able to state what they are).
    - Take note: velocity needs a direction (Scalar)
    - Know how to calculate both from word problems
    - Know how to use the speed/velocity equation to solve for distance/displacement or time.
      - **Speed**
      - **Velocity**
- Position-Time Graphs
  - Make sure to include graph title, axis titles, scales, and to **use as much space as possible.**
  - Make sure to always have time on the x-axis and position/distance on the y-axis.
  - Know how to find Slope, and what value that represents.
  - Know what the different types of slope lines mean
    - Include: positive or negative slope, straight line, curved line, horizontal line
    - **Do not forget title or units!!!**



- Velocity-Time Graphs

- Make sure to include all graph requirements as above.
- Know how to find the Slope and what that means.
  - Know what the different types slope lines mean
- Include: positive or negative slope, straight line, curved line, horizontal line



- Acceleration

- Know what acceleration is
- Know how to calculate it.
- Know how to use the equation for acceleration to solve for the change in speed/velocity or time
- Know how to calculate final velocity by using the equation.

- Take note of summary page at the end of Note Package 1.

- Know which symbol stands for which quantity
- Know which units go with which quantity

**Vocabulary**

These are terms that should look familiar to you. No, I won't ask for definitions. I may ask what they mean with an example. Read through the list make sure that these terms are familiar to you and that you could explain them, or at least know when you would need to use them.

- Acceleration
- Delta ( $\Delta$ )
- Displacement
- Distance

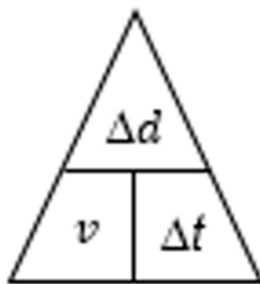
- km/h
- m
- m [E]
- m/s
- m/s<sup>2</sup>
- Scalar
- Slope
- Speed
- Time
- Time interval
- Units
- Vector
- Velocity

### Formulas Given

Conversion Factors:

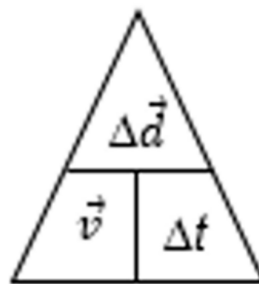
$$1000 \text{ m} = 1 \text{ km} \quad 100 \text{ cm} = 1 \text{ m} \quad 10 \text{ mm} = 1 \text{ cm}$$

$$1 \text{ min} = 60 \text{ s} \quad 1 \text{ hour} = 60 \text{ min} \quad 1 \text{ hour} = 3600 \text{ s}$$



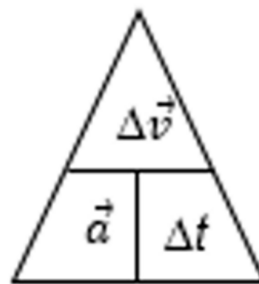
Speed:

$$v = \frac{\Delta d}{\Delta t}$$



Velocity:

$$\vec{v} = \frac{\Delta \vec{d}}{\Delta t}$$



Acceleration:

$$\vec{a} = \frac{\Delta \vec{v}}{\Delta t}$$

*Intervals:  $\Delta = \text{Final} - \text{Initial}$*

$$\text{Slope} = \frac{\text{rise}}{\text{run}} = \frac{\Delta y}{\Delta x}$$

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