

# Physics Monday September 8th

## Items for today

- Class is delayed 5 minutes for Virtual Students

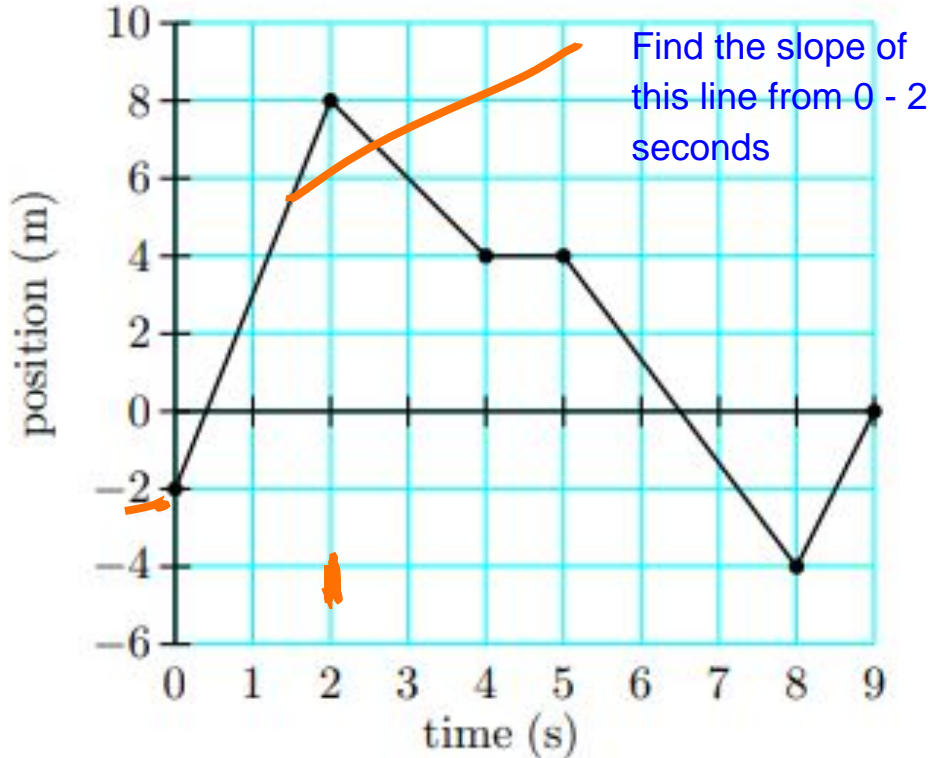
Given a D-t graph, how do you find the velocity of an object?

$$\text{SLOPE} = V$$

Note:

The slope of a line on a displacement time (D-t) graph gives us the Velocity that an object is moving.

# Physics Monday September 8th



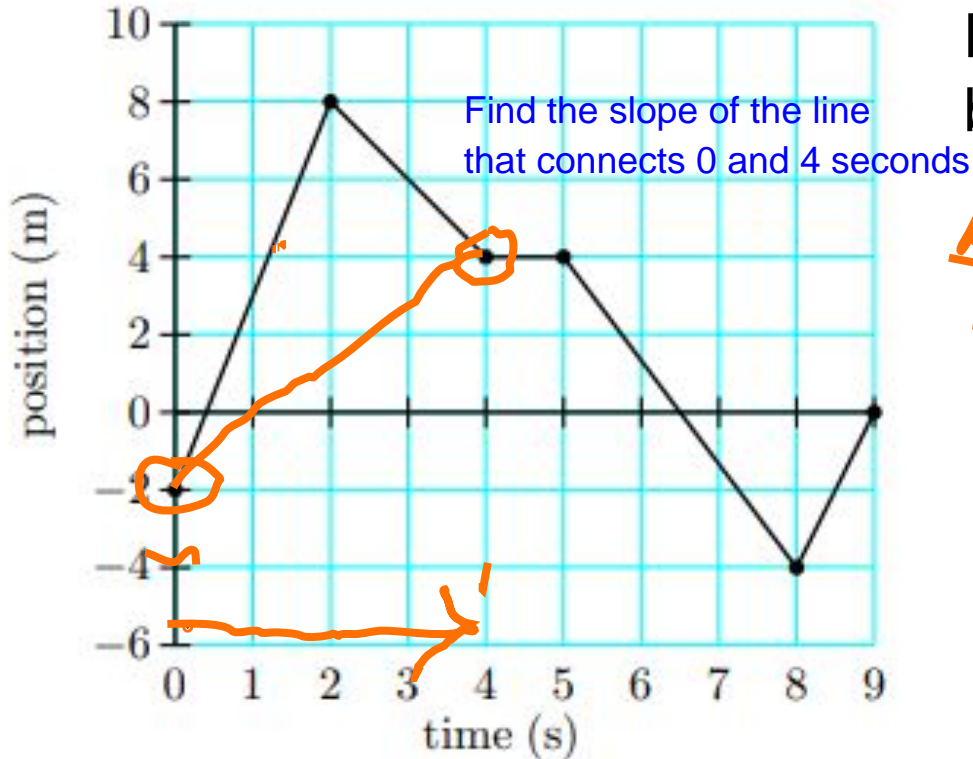
Find the average velocity between 0 and 2 seconds.

$$\frac{\Delta d}{t} = \frac{8 - (-2)}{2} = \frac{10}{2}$$

$$5 \text{ m/s}$$

5.0 m/s

# Physics Monday September 8th



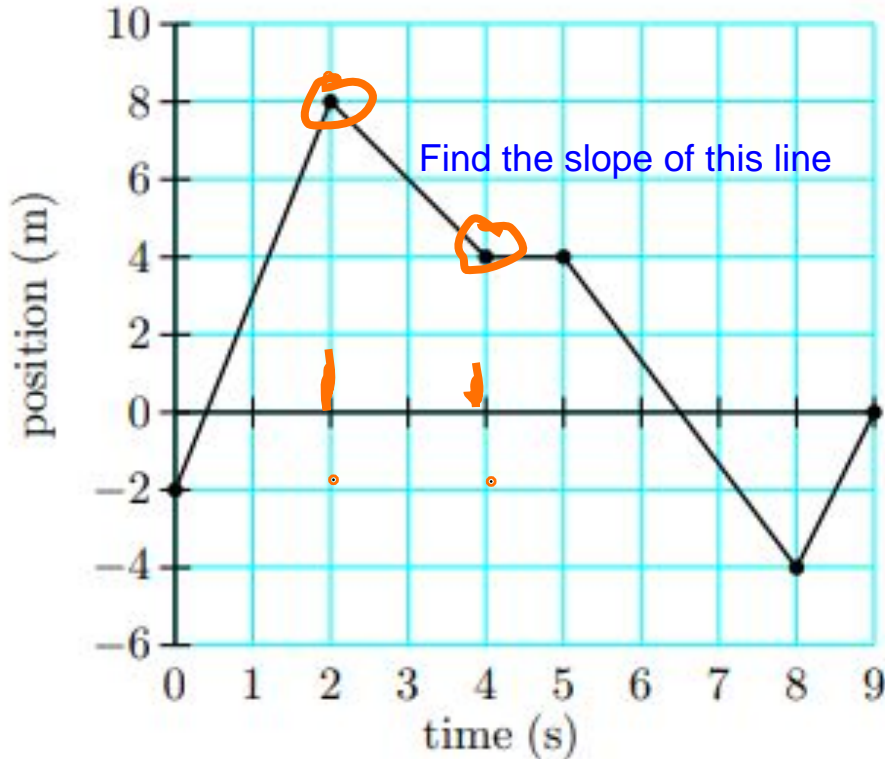
Find the average velocity between 0 and 4 seconds.

$$\frac{\Delta d}{t} = \frac{4 + 2}{4} = \frac{6}{4}$$

$$1.5 \text{ m/s}$$

1.5 m/s

# Physics Monday September 8th



+ = forward  
= - Back

Find the average velocity between 2 and 4 seconds.

$$\frac{\Delta d}{\Delta t} = \frac{4-8}{4-2} = \frac{-4}{2}$$

← 2 m/s -2 m/s

V from 2-4 seconds = -2.0 m/s  
Notice the sign of the slope is "-"  
meaning the object is going backwards.

# Physics Monday September 8th



Find the average velocity between 4 and 8 seconds.

$$\frac{-4 - 4}{8 - 4} = \frac{-8}{4}$$

$$\frac{-8}{4} = -2 \text{ m/s}$$

# Physics Monday September 8th



Find the average velocity between 0 and 9 seconds.

$$\frac{\Delta d}{t} = \frac{0 - -2}{9}$$

$$.222 \text{ m/s}$$

•  $V = 0.222 \text{ m/s}$