CONCEPT: INTRO TO ACCELERATION

● Remember: Velocity is how FAST your position changes ⇒ $\vec{v} = \frac{\Delta x}{\Delta t}$

- Acceleration is how FAST your _____ changes ⇒ $\vec{a} =$ ——— Units: [—]

- 2 ways something can have acceleration → change in velocity's _____ or _____.

● Acceleration is always a vector! No scalar version of acceleration.

Motion Vector	Scalar Equivalent
Displacement $\Delta\vec{x}$	Distance d
Velocity $\vec{v}$	Speed s
Acceleration	

EXAMPLE: Your car moves right at 10m/s. After 4s your car is moving right at 30m/s. Calculate the magnitude & direction of the acceleration over the 4s.

EXAMPLE: You're jogging right at 6m/s. 3 seconds later you're jogging to the left at 6m/s. What is the magnitude & direction of your acceleration during the 3s?

PRACTICE**:** The brakes of your car can provide an acceleration of 4.6m/s^2**.** You're speeding at 37.5 m/s and suddenly see a police car, so you slam the brakes**.** How long will it take for your car to slow down to the speed limit of 25 m/s?