

01-07

Linear Motion
Accelerated motion

What is acceleration?

- Acceleration will come up a lot this year, know its definition, symbol and units
 - Definition: rate of velocity change
 - What is velocity and what does this mean?
 - $a = \Delta V / \Delta t$ (what does this mean)
 - Symbol: a
 - Units (dimensional analysis tells us $(\text{m/s})/\text{s}$, this is m/s^2)

Clicker question

(90 seconds...this may be kinda tricky!)

- A car slows down with an average acceleration of -2.0 m/s^2 . If the initial velocity of the car is $+20 \text{ m/s}$, how long would take the car to stop? During that time period, what would the average speed of the car be? (format: answer to part 1, answer to part 2)
 - a) 10 sec, -10 m/s
 - b) 10 sec, $+10 \text{ m/s}$
 - c) 10 sec, $+5 \text{ m/s}$
 - d) 10 sec, 5 m/s
 - e) None of the above correctly answers the question!

Clicker question

(45 seconds...this may be kinda tricky!)

- Which of these is something built into your car expressly for the purpose of changing the velocity of your car (and hence the acceleration)?
 - a) Accelerator
 - b) Steering wheel
 - c) Brake
 - d) Trick question: All three of these change velocity!
 - e) Trick question: Two of these changes velocity!