Welcome to AP Physics

Room 412

Mrs. Dimas

Find your assigned and read the barometer story on your table.

DO NOT WRITE ON IT

WRITE a one paragraph response

What is Physics?

Here is Sheldon's response

Sheldon tries to "teach" Penny Physics...

Make a Table on same paper as barometer summary. Title it Road Runner and make one column = Good Physics and one column = Bad Physics

---

/www.youtube.com/watch?v=My1Kzy_cDV0

/www.youtube.com/watch?v=bqg0-9mE_yg

Good Physics	Bad Physics

Chapter 1 Notes - Prerequisite skills and math for Physics

Conversions -

10 slugs --> grams (note 1 kg = .0685 kg)

---

100 mph --> ft/s (note 5280 ft = 1 mi)

Dimensional Analysis - using units/ dimensions to determine if an equation works

[L] = **length**

[T] = **time**

[M] = **mass**

example:

if acceleration = a = m/s^2 = $[L]/[T]^2$

and velocity = v = m/s = $[L]/[T]$

and distance = d = m = $[L]$

---

1 Which of the following is a possible equation for acceleration?
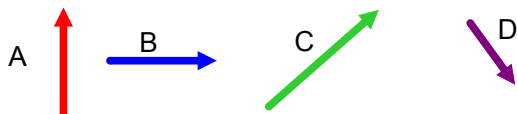
A a = 1/2dt

B d = at^3

C v = at

D a = vt^2

Units Table

Quantity	Symbol	Unit
Length	L	m
Time	t	s
Mass	m	kg
Temperature	T	°C or K

Vectors - Graphical

Add head to tail

A   B   C   D

More Practice with Graphical Vector Adding

**Adding Vectors with Trig -
Analytical Method**
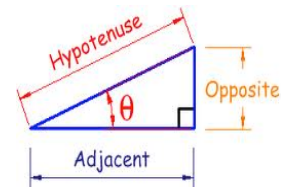
1) Break into components
  >   x = cos
  >   y = sin

2) Make a table of x and y

3) Add up x's and y's

4) Use Pythagorean theorem to determine magnitude

5) Use trig to determine direction

Trig Identities to remember

cosθ = adj/hyp

sinθ = opp/hyp

tanθ = opp/adj

Sample Problem:

A wind is blowing at 20 km/hr 20 deg W of N while a sailboat moves at 80 km/hr W. Neglecting water resistance, what is the resultant velocity of the sailboat?