what is the amount of force required to keep a 10kg ball moving in a constant direction at a constant velocity of 1 m/s ( ignore the effects of friction

Each of newton laws plays a role in any particular situation with respect to objects and motion. However, most often one law plays a more dominant role in a situation. Pick which of the newton law most governs the situation

A. A rocket in space is able to propel itself in a specific direction at a specific velocity

B if the sun were vaporized, the earth would continue in a straight liner path indefinitely

c. The Demonstration that I did in lecture one with the egg and cup of water (similar to pulling the cloth of a table cloth of a table with dishes

d. if you need to move your couch, you get help because of the law

e. when you drive , you know not to take a sip of hot coffee when you punch the pedal

Most gasoline engines are only about 20% efficient. How far can a car travel if it burns fuel that has energy content of 50 MJ/ L (million joules per liter). Friction forces and air resistance on car are 800 N.

The diagram to the right depicts the before – and after collision speed of a car which undergoes a head on collision with a wall. In case A , the car bounce off the wall , in case B the crumples up and sticks to the wall

*Case A*

* ----------🡪* v1 =5 m/s

Description: C:\Program Files\Microsoft Office\MEDIA\OFFICE14\AutoShap\BD18208_.wmf

🡨----------C:\Program Files\Microsoft Office\MEDIA\CAGCAT10\j0212957.wmf

V1 = 4 M/ S

IN which case ( A OR B) is the change in velocity greatest ?

In which case ( A or B ) Is the change in momentum the greatest

CASE B

**V1 =4 M/S

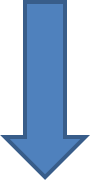
V1 =0 M/S C:\Program Files\Microsoft Office\MEDIA\CAGCAT10\j0212957.wmf Description: C:\Program Files\Microsoft Office\MEDIA\OFFICE14\AutoShap\BD18208_.wmf

C. In which case (A or B) is the greatest?

Two objects were lifted by a machine into the air. Object A has a mass of 100 kgs and was lifted at a rate of 2m/s. Object B had a mass of 500 kg and was lifted at a rate of 0.5 m/s

1. Which object had more KE while being lifted?
2. Which object had more PE after being lifted to distance of10 meters and laid on platform

**F2**



**D2**

F 1

**D1**

F1 = ?

D1= 2 m

F2 = 200n

D2 -8m

Calculate F1 , can you figure out what the mass of the rock is ?