1.   What is the SI unit for mass?

        A.   nanogram
        B.   milligram
        C.   kilogram
        D.   gram

2.   Which of the following graphs shows a directly proportional relationship between P and Q?

        A.   B.

        C.   D.
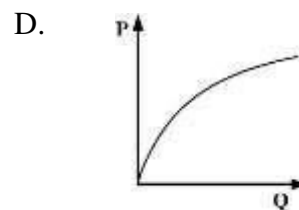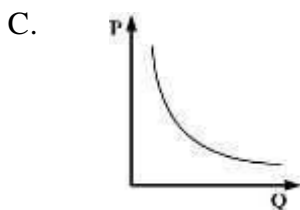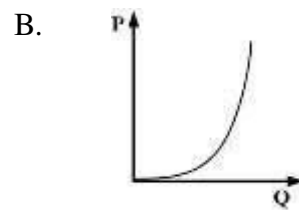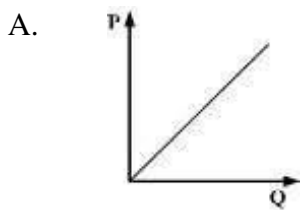
3.   Which of the following terms is a quantity that has magnitude only?

        A.   Resultant
        B.   Vector
        C.   Arrow
        D.   Scalar

4.   Whose law states that force is the product of mass and acceleration?

        A.   Einstein's Law
        B.   Newton's Law
        C.   Samit's Law
        D.   Boyles Law

5.   Turning effect of a force about a given reference point is known as

        A.   pressure.
        B.   energy.
        C.   spindle.
        D.   moment.

6.   What does the area under a velocity time graph represent?

A.   Displacement
B.   Acceleration
C.   Velocity
D.   Slope

(c)   An engineer is designing the runway of an airport where planes have an acceleration of 4 m/s^2 and take-off speed of 60 m/s.

Plane at rest

Take off velocity = 60 m/s

before take off

Acceleration = 4 m/s^2
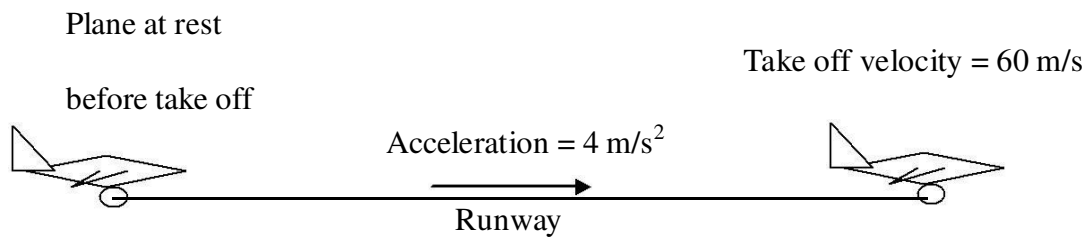
Runway

Calculate the expected **length of the runway. (list the information then use the correct equation of motion)**

(d)   Smiley was standing on a bridge above a river. He drops a stone into the river and measures the time it takes to splash into the water.

Stopwatch
reads 9 s

Distance

Stone

River
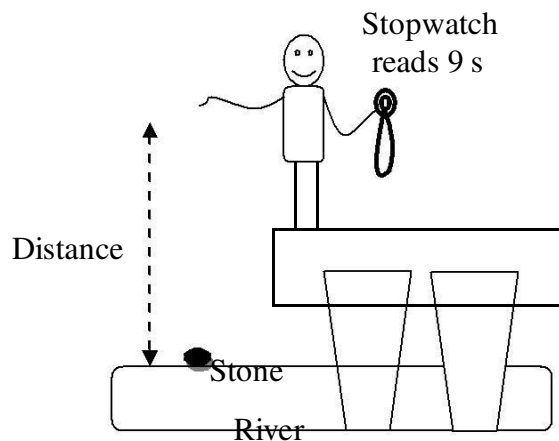
If the time he recorded was 9 seconds, determine the distance the stone covered before hitting the water. **(this is free fall, list the information then use the correct equation of motion)**