

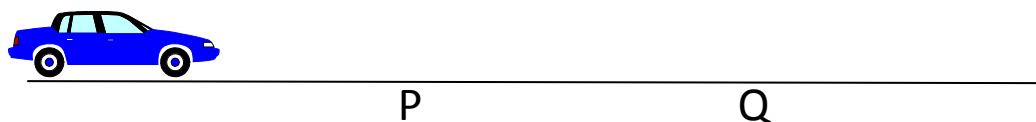
Question a day!



For the October holidays pick 15 minutes and do the question for that day. Answers to the questions will appear on the website. www.helpmyphysics.co.uk click Mr Mallon's classroom.

Monday, October 13th

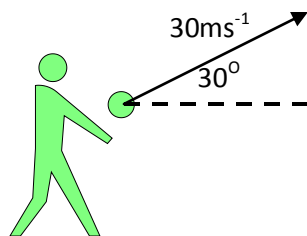
1. A car's braking data is being tested in a race track.



The car's velocity is measured to be 25 ms^{-1} at point P and 10 ms^{-1} at point Q.
If the car's decelerates at 5 ms^{-2} find the distance between points P and Q

Tuesday, October 14th

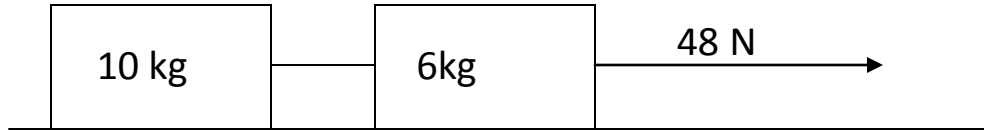
2. In a game of volleyball the player strikes the ball with a velocity of 30 ms^{-1} at an angle of 30° to the horizontal as shown:



- Calculate the initial vertical and horizontal velocities of the ball.
- Calculate the time it took for the ball to reach its maximum height.
- Find the horizontal distance travelled by the ball.

Wednesday, October 15th

3. Two boxes are dragged along a frictionless table top joined together with a piece of string with a force of 48 newtons.



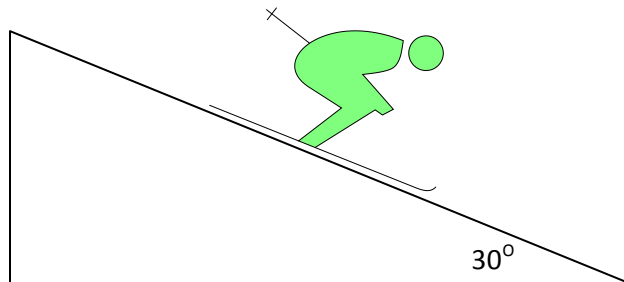
- Calculate the acceleration of the boxes.
- Find the tension force in the string joining the two boxes.

Thursday, October 16th

4. A rocket of mass 15,000 kg is launched with an initial acceleration of 12 ms^{-2} .
- Calculate the weight of the rocket
 - Draw a force diagram of the forces acting on the rocket.
 - Calculate the initial thrust of the rockets engine.

Friday, October 17th

5. A skier of mass 60 kg stands stationary on a slope of angle 30 degrees to the horizontal.



- Calculate the skier's weight component parallel to the slope.
- Find the value of the frictional force acting against the skier

