

it is decelerating

work and energy

A body of mass 3 kg hangs from a length of string in a liquid. The mass of the liquid displaced by the block is 0.50 kg. What is the tension in the string?

176.4 W

The centre of gravity of a disc is at its .....

The weight of an object of mass 500 g is .....

24 J

0.443 m/s

What is the potential energy of an object of mass 7 kg at a height of 3.4 m above the ground?

An object starts from rest with a uniform acceleration  $a$ . The time taken for it to undergo a displacement  $s$  is given by what formula?  
 A lady is lifting a bag of shoes with a mass of 50 kg. What force is needed to lift the bag?

28 m/s  
 N 9

What is the time it takes for a stone to reach the ground when it is dropped 500 m?

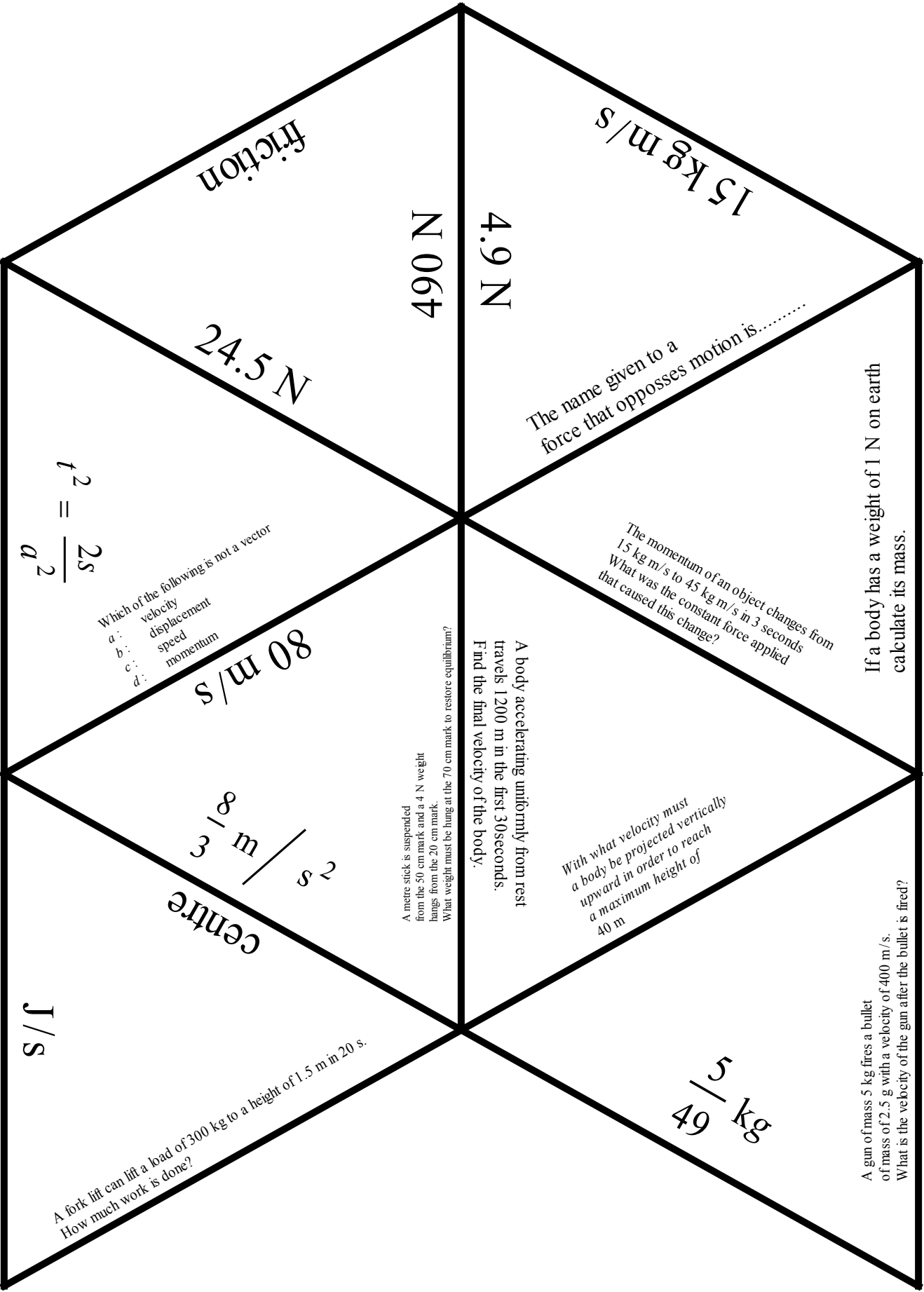
Vector quantities are those that have .....

What force is needed to give a body of mass 5 kg an acceleration of  $5 \text{ m/s}^2$

Relate work and mass in a formula

$work = mass \times acceleration \times distance$

The watt is the unit of power; it can also be written as .....



J/s

A fork lift can lift a load of 300 kg to a height of 1.5 m in 20 s.  
How much work is done?

centre

$\frac{8}{3} \text{ m/s}^2$

A metre stick is suspended from the 50 cm mark and a 4 N weight hangs from the 20 cm mark. What weight must be hung at the 70 cm mark to restore equilibrium?

A body accelerating uniformly from rest travels 1200 m in the first 30 seconds. Find the final velocity of the body.

With what velocity must a body be projected vertically upward in order to reach a maximum height of 40 m

A gun of mass 5 kg fires a bullet of mass of 2.5 g with a velocity of 400 m/s. What is the velocity of the gun after the bullet is fired?

$\frac{5}{49} \text{ kg}$

$$t^2 = \frac{2s}{a^2}$$

Which of the following is not a vector  
 a: velocity  
 b: displacement  
 c: speed  
 d: momentum

80 m/s

24.5 N

friction

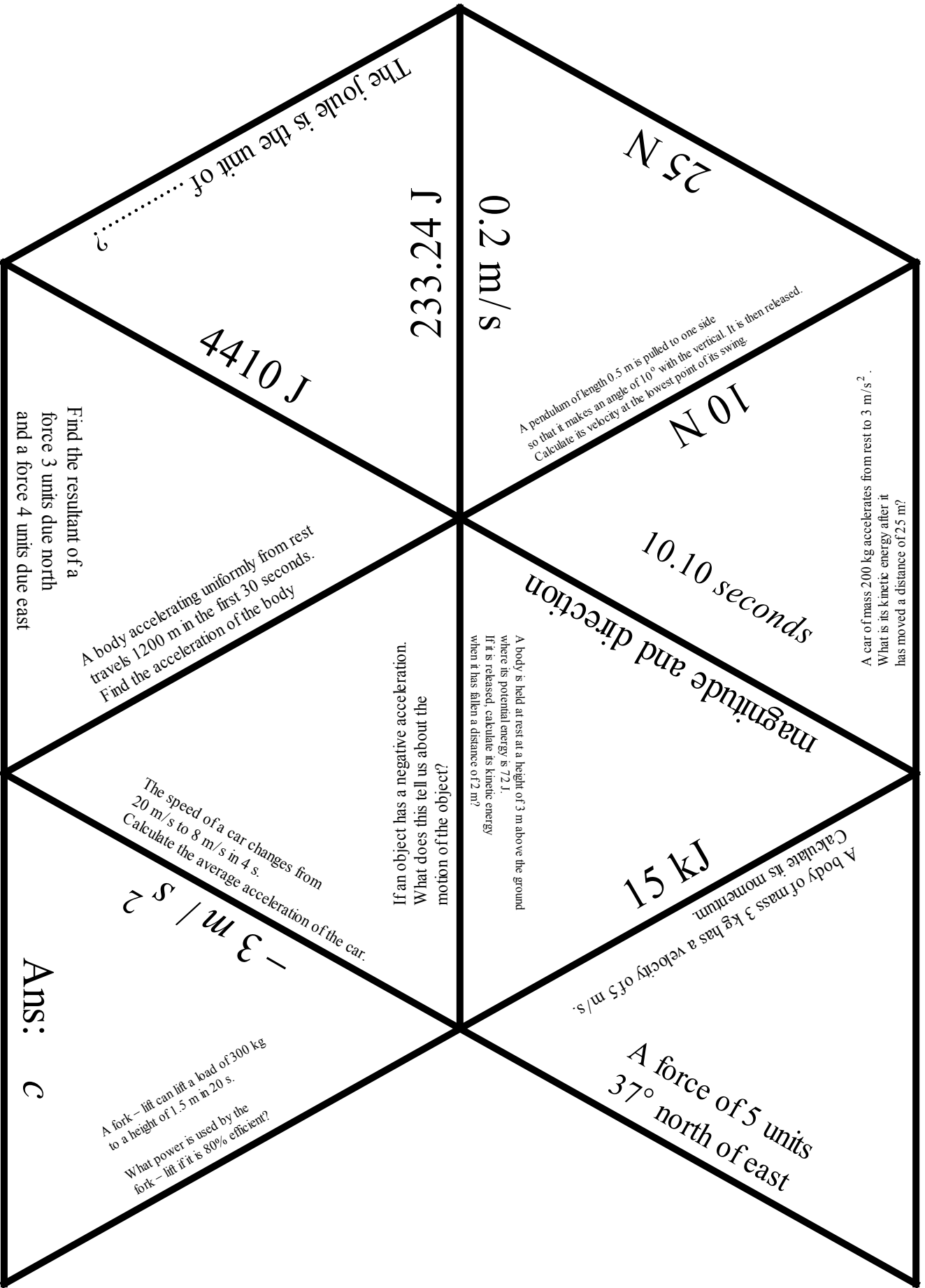
4.9 N  
 490 N

The name given to a force that opposes motion is.....

The momentum of an object changes from 15 kg m/s to 45 kg m/s in 3 seconds. What was the constant force applied that caused this change?

If a body has a weight of 1 N on earth calculate its mass.

15 kg m/s



The joule is the unit of .....?

4410 J

Find the resultant of a force 3 units due north and a force 4 units due east

A body accelerating uniformly from rest travels 1200 m in the first 30 seconds. Find the acceleration of the body

The speed of a car changes from 20 m/s to 8 m/s in 4 s. Calculate the average acceleration of the car.

Ans: c

A fork – lift can lift a load of 300 kg to a height of 1.5 m in 20 s. What power is used by the fork – lift if it is 80% efficient?

$-3 \text{ m/s}^2$

233.24 J

0.2 m/s

A pendulum of length 0.5 m is pulled to one side so that it makes an angle of  $10^\circ$  with the vertical. It is then released. Calculate its velocity at the lowest point of its swing.

10 N

A car of mass 200 kg accelerates from rest to  $3 \text{ m/s}^2$ . What is its kinetic energy after it has moved a distance of 2.5 m?

A body is held at rest at a height of 3 m above the ground where its potential energy is 72 J. If it is released, calculate its kinetic energy when it has fallen a distance of 2 m?

magnitude and direction

10.10 seconds

15 kJ

A body of mass 3 kg has a velocity of 5 m/s. Calculate its momentum.

A force of 5 units  $37^\circ$  north of east