

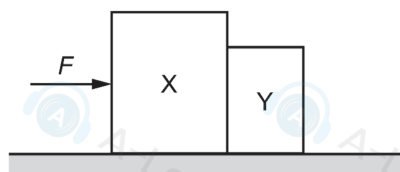
- 9 The acceleration of free fall on the surface of planet P is one-tenth of that on the surface of planet Q.

On the surface of P, an object has a mass of 1.0 kg and a weight of 1.0 N.

What are the mass and the weight of the same object on the surface of planet Q?

	mass on Q/kg	weight on Q/N
A	1.0	0.1
B	1.0	10
C	10	10
D	10	100

- 7 A single horizontal force F is applied to a block X which is in contact with a separate block Y, as shown.



The blocks remain in contact as they accelerate along a horizontal frictionless surface. Air resistance is negligible. X has a greater mass than Y.

Which statement is correct?

- A The acceleration of X is equal to force F divided by the mass of X.
 - B The force that X exerts on Y is equal to F .
 - C The force that X exerts on Y is less than F .
 - D The force that X exerts on Y is less than the force that Y exerts on X.
- 8 A car of mass 750 kg has a horizontal driving force of 2.0 kN acting on it. It has a forward horizontal acceleration of 2.0 m s^{-2} .



What is the resistive force acting horizontally?

- A 0.50 kN B 1.5 kN C 2.0 kN D 3.5 kN

- 12 What is **not** a necessary requirement of the forces in a couple?

- A They act in opposite directions.
- B They act along different lines.
- C They have the same magnitude.
- D They produce a resultant force.