

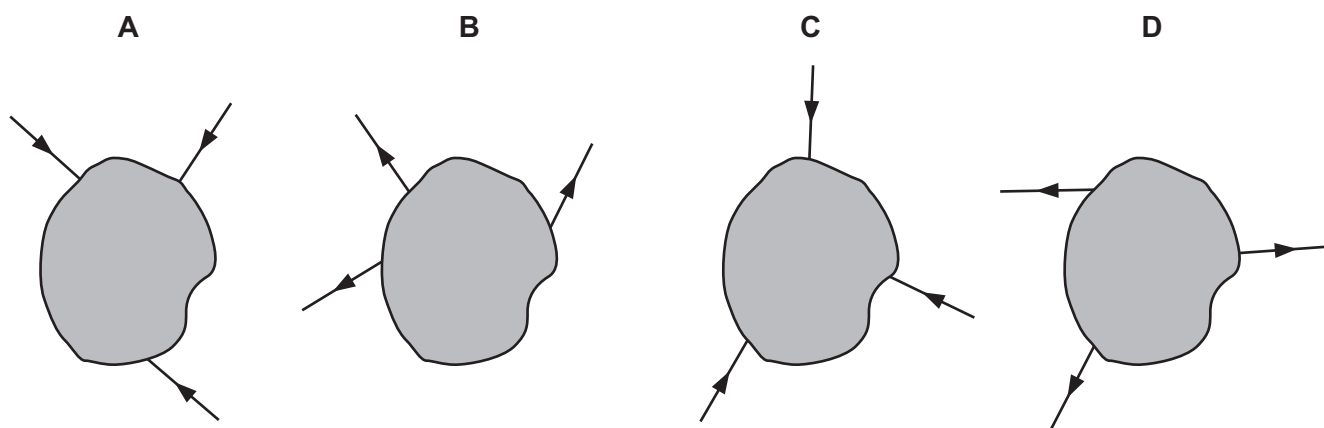
- 11 The IKAROS satellite has mass 320 kg and moves through space using a solar sail of area  $20 \text{ m}^2$ . The average solar wind pressure is  $1.0 \times 10^{-5} \text{ N m}^{-2}$ .

What is the acceleration of the satellite caused by the solar wind?

- A  $3.1 \times 10^{-8} \text{ m s}^{-2}$
- B  $6.3 \times 10^{-7} \text{ m s}^{-2}$
- C  $3.2 \times 10^{-3} \text{ m s}^{-2}$
- D  $6.4 \times 10^{-2} \text{ m s}^{-2}$

- 12 Three coplanar forces act on an object in the directions shown.

In which diagram could the object be in equilibrium?



- 13 What is the centre of gravity of an object?

- A the geometrical centre of the object
- B the point at which the weight of the object may be considered to act
- C the point on the object about which there is a zero net torque
- D the point where gravity acts on the object