

Forces

2. Gravity

CONCEPT 1

TEST YOURSELF

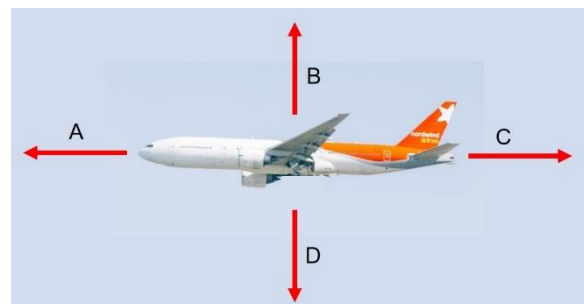
FORCES AND FORCE DIAGRAMMS

KNOW

- Q1 (a) A parachutist jumps out of a plane. How would you describe the type of force that the Earth acts on her?
- (b) What is the name of the force than acts on her?
- Q2 What are the units of force?

APPLY

Look at the following diagram of an aeroplane in flight.



- Q3 (a) Which force makes the aeroplane move forwards?
- (b) Which plane pushes against the aeroplane when it flies?
- (c) Which forces must be equal for the aeroplane to fly at a constant height?
- (d) Once it is flying, what will happen to the aeroplane when force A and force C are equal?
- Q4 Draw a force diagram showing the forces that act on a car as it drives at a constant speed along a flat road.

EXTEND

- Q5 Draw a force diagram of a rocket accelerating upwards from the ground.
- Q6 Draw force diagrams and calculate the size and direction of the resultant force if:
- (a) a sail boat has a force of 500 N from the wind pushing it forwards and the water resistance is 200 N.
- (b) a snow sledge is being pulled by a force of 250 N and acted on by friction (between the snow and the sledge) of 100 N and air resistance of 50 N.