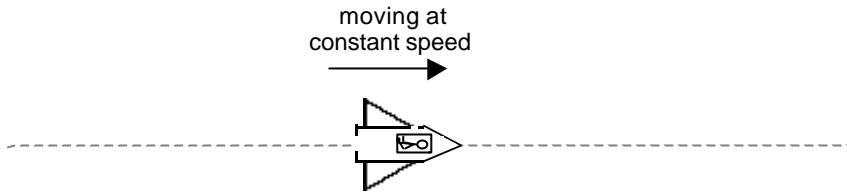


4

A spacecraft is drifting through space. It is very far away from all other objects. There is no air in space, so there is no air resistance. The spacecraft is moving in a straight line at a constant speed.



(a) What force must the rockets exert to keep the spacecraft moving in this direction at constant speed?

Tick ONE box (✓)

- No force is needed.
- A constant force towards the right.
- A steadily increasing force towards the right.

(b) The captain of the spacecraft wants to make it move in the same direction, but with its speed getting steadily greater. What force must the rockets exert to do this?

Tick ONE box (✓)

- No force is needed.
- A constant force towards the right.
- A steadily increasing force towards the right.

(c) What force is needed to make the spacecraft slow down?

Tick ONE box (✓)

- No force is needed. It will do this if you just wait.
- A constant force towards the left.
- A steadily increasing force towards the left.