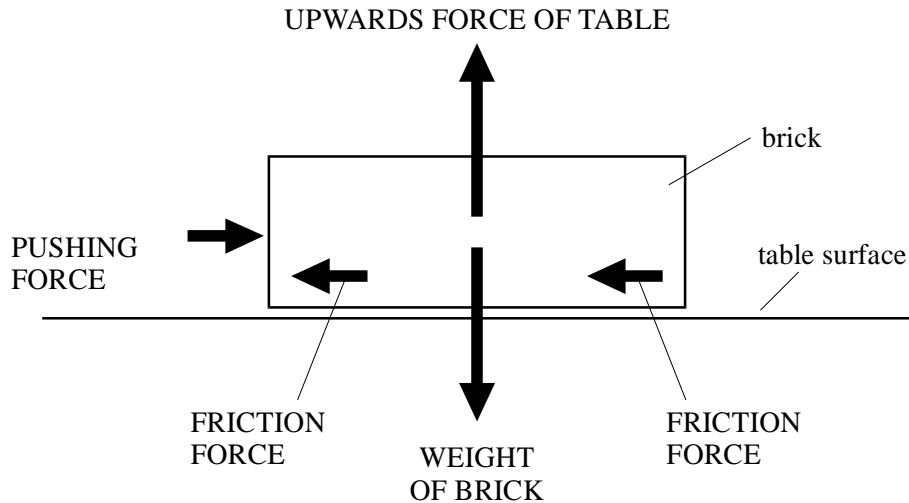


Resultant forces

1. The brick shown in the diagram is being pushed but it is **not** moving.



(a) The pushing force does **not** make the brick move. Explain why.

..... (1)

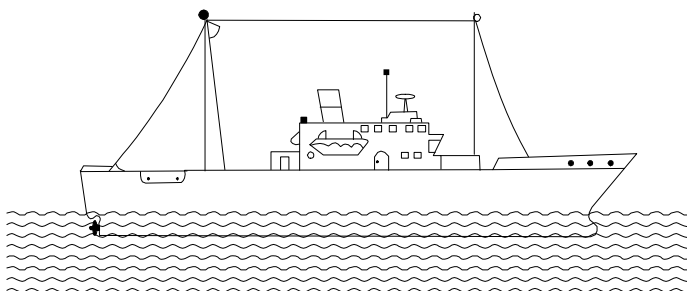
(b) The weight of the brick does **not** make it move downwards. Explain why.

..... (1)

(c) A bigger pushing force **does** make the brick slide across the table. Write down **one** thing that the sliding brick will do to the surface of the table.

..... (1)
(Total 3 marks)

2. The diagram below shows an empty cargo ship. It is not moving.

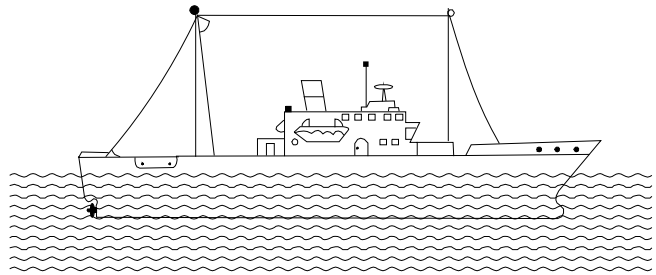


(a) The water exerts a force on the ship. In which direction does this force act?

..... (1)

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- (b) The diagram below shows the same cargo ship. This time it has a full load of cargo.



- (i) How does the force exerted by the water on the ship change as the ship is loaded?

.....

(1)

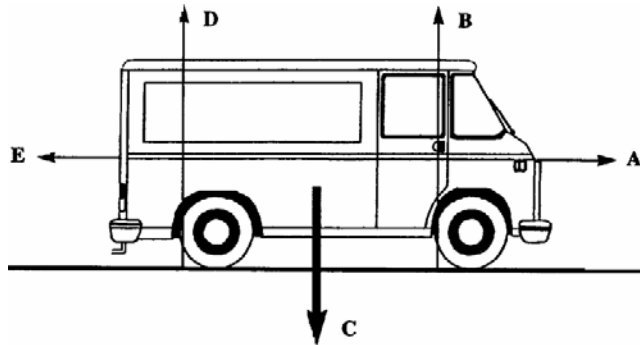
- (ii) Why has the force exerted by the water changed?

.....

(1)

(Total 3 marks)

3. Five forces, **A**, **B**, **C**, **D** and **E** act on the van.



- (a) Complete the following sentences by choosing the correct forces from **A** to **E**.

Force is the forward force from the engine.

Force is the force resisting the van's motion.

(1)

- (b) The size of forces **A** and **E** can change. Complete the table to show how big force **A** is compared to force **E** for each motion of the van. Do this by placing a tick in the correct box. The first one has been done for you.

MOTION OF VAN	FORCE A SMALLER THAN FORCE E	FORCE A EQUAL TO FORCE E	FORCE A BIGGER THAN FORCE E
Not moving		✓	
Speeding up			
Constant speed			
Slowing down			

(3)

- (c) When is force **E** zero?

.....

(1)

(Total 11 marks)