

- 15** A force  $F$  is applied to a freely moving object. At one instant of time, the object has velocity  $v$  and acceleration  $a$ .

Which quantities **must** be in the same direction?

- A**  $a$  and  $v$  only
- B**  $a$  and  $F$  only
- C**  $v$  and  $F$  only
- D**  $v$ ,  $F$  and  $a$

- 16** A hinged door is held closed in the horizontal position by a cable