

- 8** A resultant force causes a body to accelerate.

What is equal to the resultant force?

- A** the acceleration of the body per unit mass
- B** the change in kinetic energy of the body per unit time
- C** the change in momentum of the body per unit time
- D** the change in velocity of the body per unit time

- 9** A ship of mass $8.4 \times 10^7 \text{ kg}$ is approaching a harbour with speed 16.4 ms^{-1} . By using reverse thrust it can maintain a constant total stopping force of $920\,000 \text{ N}$.

How long will it take to stop?

- A** 15 seconds
- B** 150 seconds
- C** 25 minutes
- D** 250 minutes

- 10** A tractor of mass 1000 kg is connected by a tow-bar to a trailer of mass 1000 kg . The total resistance to motion has a constant value of 4000 N . One quarter of this resistance acts on the trailer.

When the tractor and trailer are moving along horizontal ground at a constant speed of 6 ms^{-1} , what is the force exerted on the tractor by the tow-bar?

- A** 0 N **B** 1000 N **C** 3000 N **D** 4000 N

Space for working