**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 $8.4 \times 10^7$ kg is approaching a harbour with speed $16.4\,m\,s^{-1}$. By using reverse thrust it can maintain a constant total stopping force of 920 000 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 $6\,m\,s^{-1}$, 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**