

- 17** A box of weight 40 N is pushed with a horizontal force of 20 N along level ground for a distance of 2.4 m.

The box is then lifted at constant velocity through a height of 1.6 m by a vertical force.

What is the total work done on the box by the two forces?

- A** 80 J **B** 110 J **C** 120 J **D** 160 J

- 18** Which statement about efficiency is correct?

- A** Efficiency does **not** have a unit.
B The joule is a unit of efficiency.
C The metre is a unit of efficiency.
D The watt is a unit of efficiency.

- 19** A plane wave of amplitude A is incident on a surface of area S placed so that it is perpendicular to the direction of travel of the wave. The energy per unit time reaching the surface is E .

The amplitude of the wave is increased to $2A$ and the area of the surface is reduced to $\frac{1}{2}S$.

How much energy per unit time reaches this smaller surface?

- A** $4E$ **B** $2E$ **C** E **D** $\frac{1}{2}E$