

- 20** A railway engine accelerates a train of total mass 1200 tonnes (1 tonne = 1000 kg) from rest to a speed of 75 m s^{-1} .

How much useful work must be done on the train to reach this speed?

A $1.7 \times 10^6\text{ J}$

B $3.4 \times 10^6\text{ J}$

C $1.7 \times 10^9\text{ J}$

D $3.4 \times 10^9\text{ J}$

Space for working