

**15** A cyclist is travelling at a constant speed up a hill. The frictional force resisting the cyclist's motion is 8.0 N.

The cyclist uses 450 J of energy to travel a distance of 20 m.

What is the increase in the gravitational potential energy of the cyclist?

**A** 160 J

**B** 290 J

**C** 440 J

**D** 610 J

**16** A stone of mass  $m$  falls from rest at the top of a cliff of height  $h$  into the sea below. Just before