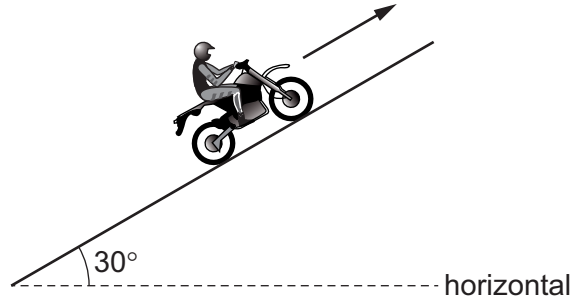20 The total weight of a motorbike and rider is 1800 N. The motorbike travels in a straight line at constant speed up a hill at an angle of 30° to the horizontal.

The useful output power of the motorbike is 36 000 W. The total resistive force due to air resistance and friction on the motorbike and rider is 2400 N.

What is the speed of the motorbike?

A $8.6\,\text{m s}^{-1}$ B $11\,\text{m s}^{-1}$ C $15\,\text{m s}^{-1}$ D $24\,\text{m s}^{-1}$