Mechanical Work

Work = Force x Distance

$$W = Fd$$

Units of work are joules, same as for energy. 1 joule is the work done by force 1 newton over distance 1 meter.

$$1\text{J} = 1\text{N} \cdot 1\text{m}$$

Homework

Problem.

A cyclist is moving at a constant speed of 10 m/s on a flat road. There is an air resistance force acting on him which is F=100 Newtons, directed backwards (called air drag).

What is the work done by the bicyclist over 1 minute (assuming there are no other losses except of the air drag)?