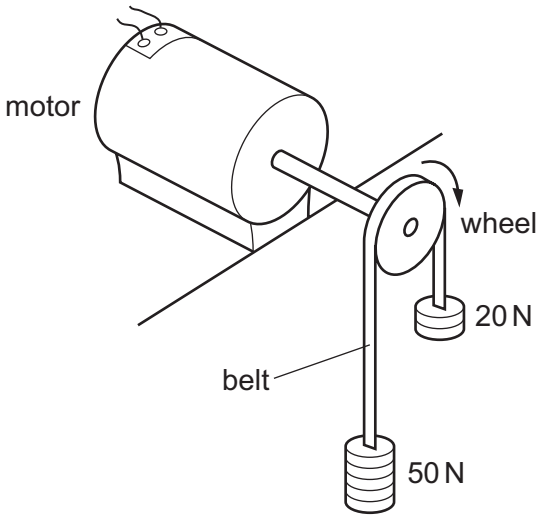
19 The diagram shows an arrangement used to find the output power of an electric motor.

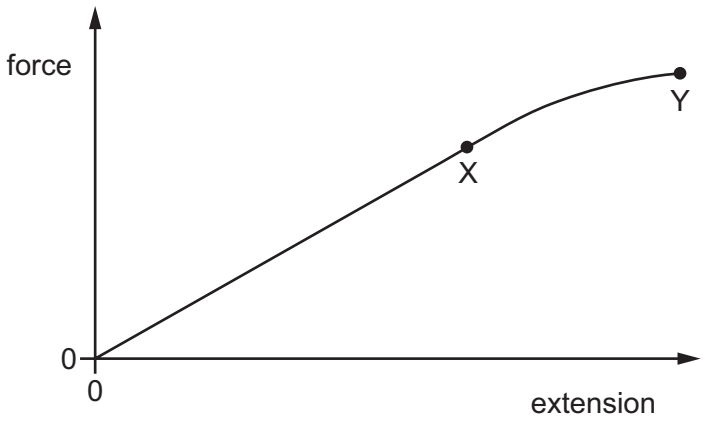
The wheel attached to the motor's axle has a circumference of 0.5 m and the belt which passes over it is stationary when the weights have the values shown.



When the wheel is making 20 revolutions per second, what is the output power of the motor?

A 300 W **B** 500 W **C** 600 W **D** 700 W

20 A sample of metal is subjected to a force which increases to a maximum value and then decreases back to zero. A force-extension graph for the sample is shown.



When the sample contracts, it follows the same force-extension curve as when it was being stretched.

What is the behaviour of the metal between X and Y?

A both elastic and plastic

B not elastic and not plastic

C plastic but not elastic

D elastic but not plastic