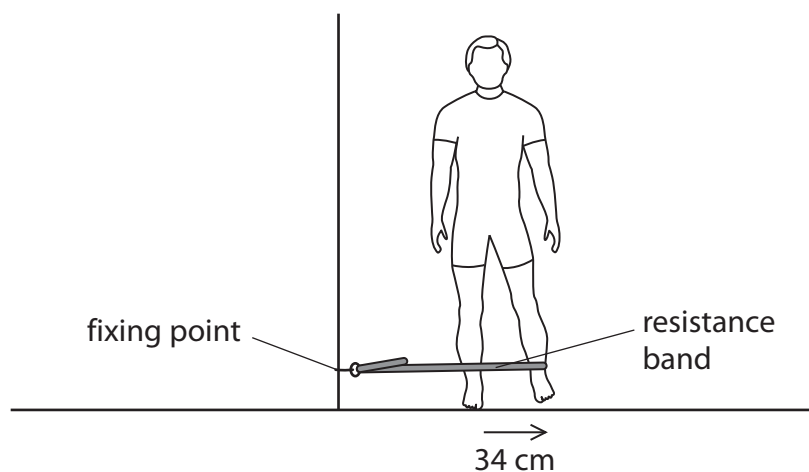


- 9 A resistance band is a stretchy plastic band that is used when doing exercises.

The diagram shows a student exercising his leg by stretching a resistance band fixed to a wall.



The student moves his leg 34 cm sideways as shown.  
The average resistance force is 23 N.

- (a) (i) State the relationship between work done, force and distance moved.

(1)

- (ii) Calculate the work done when the student moves his leg sideways once.

(2)

work done = ..... J

- (b) The student repeats this movement 15 times in 1 minute.

Calculate the average power of the student during this exercise.

(3)

power = ..... W

**(Total for Question 9 = 6 marks)**

