

## 3.3) Elastic energy

## Worked example

An elastic string has natural length 1.6m and modulus of elasticity 3N.

Find the energy stored in the string when its length is 1.4m.

## Your turn

An elastic string has natural length 1.4m and modulus of elasticity 6N.

Find the energy stored in the string when its length is 1.6m.

0.0857 J (3 sf)

## Worked example

A light elastic spring has natural length  $1.2\text{ m}$  and modulus of elasticity  $20\text{ N}$ .

Find the work done in compressing the spring from a length of  $1\text{ m}$  to a length of  $0.6\text{ m}$ .

## Your turn

A light elastic spring has natural length  $0.6\text{ m}$  and modulus of elasticity  $10\text{ N}$ .

Find the work done in compressing the spring from a length of  $0.5\text{ m}$  to a length of  $0.3\text{ m}$ .

$0.667\text{ J}$  (3 sf)