

**4 (a) Define**

**(i)** stress,

..... [1]

**(ii)** strain.

..... [1]

**(b)** The Young modulus of the metal of a wire is 0.17 TPa. The cross-sectional area of the wire is  $0.18 \text{ mm}^2$ .

The wire is extended by a force  $F$ . This causes the length of the wire to be increased by 0.095%.

Calculate

**(i)** the stress,

stress = ..... Pa [4]

**(ii)** the force  $F$ .

$F =$  ..... N [2]