

**Answer on Question #46446, Physics, Other**

*The tensile stress and tensile strain of a wire are  $6.09 \cdot 10^7 \text{ Nm}^{-2}$  and  $3 \cdot 10^{-4}$  respectively. determine young's modulus of the wire*

By definition, Young's modulus:

$$E = \frac{\sigma}{\epsilon} = \frac{6.09 \cdot 10^7 \frac{N}{m^2}}{3 \cdot 10^{-4}} = 203 \frac{GN}{m^2}$$

**Answer:** the young's modulus of the wire  $203 \frac{GN}{m^2}$