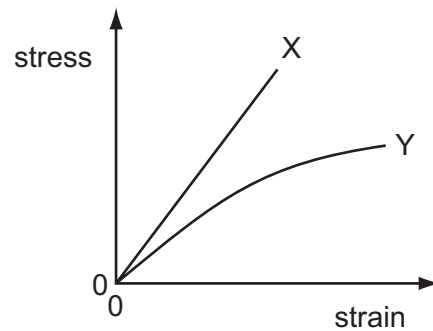


- 24 The diagram shows the stress-strain graph for two wires X and Y of different materials up to their breaking points. Both wires have the same initial dimensions.



Which statement is **not** correct?

- A Material X extends elastically.
  - B Material X extends more than material Y when loaded with the same force.
  - C Material X has a larger ultimate tensile stress.
  - D Material X is brittle.
- 25 A steel wire and a brass wire are joined end to end and are hung vertically with the steel wire attached to a point on the ceiling. The steel wire is twice as long as the brass wire and has half the diameter.

A large mass is hung from the end of the brass wire so that both wires are stretched elastically.

The Young modulus for steel is  $2.0 \times 10^{11}$  Pa and for brass is  $1.0 \times 10^{11}$  Pa.

What is the ratio of the extension of the steel to the extension of the brass?

- A 2                      B 4                      C 8                      D 16

**Space for working**