23 The diagram shows a large crane on a construction site lifting a cube-shaped load.
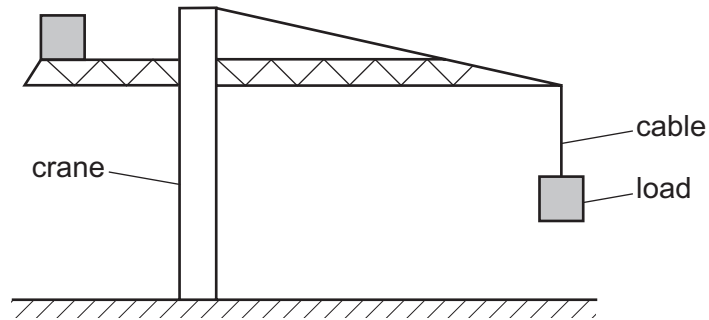

A model is made of the crane, its load and the cable supporting the load.

The material used for each part of the model is the same as that in the full-size crane, cable and load. The model is one tenth full-size in all linear dimensions.

What is the ratio $\dfrac{\text{stress in the cable on the full-size crane}}{\text{stress in the cable on the model crane}}$?

A 10^0 **B** 10^1 **C** 10^2 **D** 10^3

24 The order of magnitude of the frequency of the shortest wavelength of visible light waves can be expressed as 10^x Hz.

What is the value of x?

A 12 **B** 13 **C** 14 **D** 15

Space for working