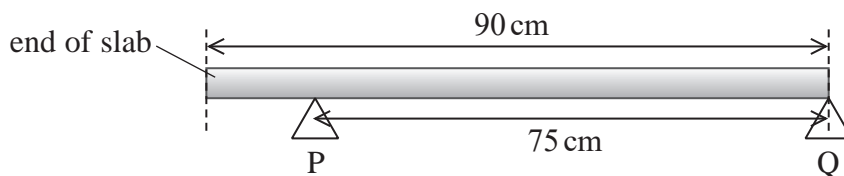


**11** A uniform paving slab is to be used as a garden step.

(a) State what is meant by the centre of gravity of an extended body.

(1)

(b) The paving slab has a weight of  $310\text{ N}$  and a length of  $90\text{ cm}$  and will be supported at two points, P and Q, as shown. The distance between P and Q will be  $75\text{ cm}$ .



This might be unsafe because a person who places all their weight at the end of the slab might tip the slab.

A person of mass  $70\text{ kg}$  stands at the end of the slab.

Deduce whether the slab will tip.

(4)