2 Fig. 2.1 shows a body P supported by 3 wires under tension. The tension in each wire is represented by T_1, T_2 and T_3. Body Q sits on a flat surface.

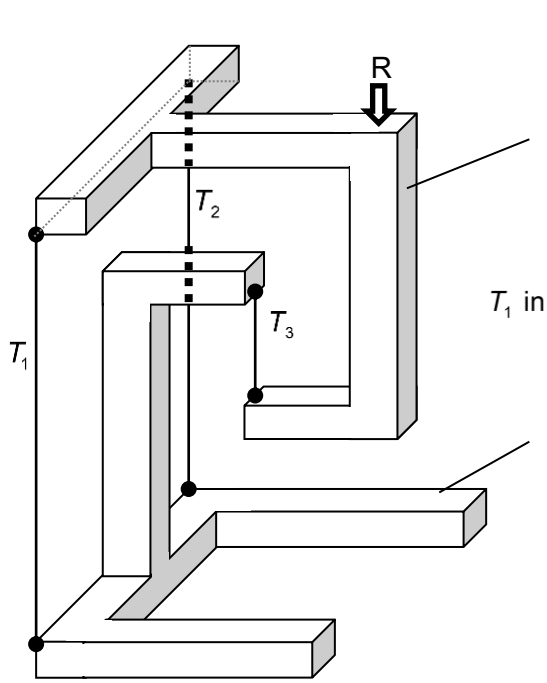

Fig. 2.1

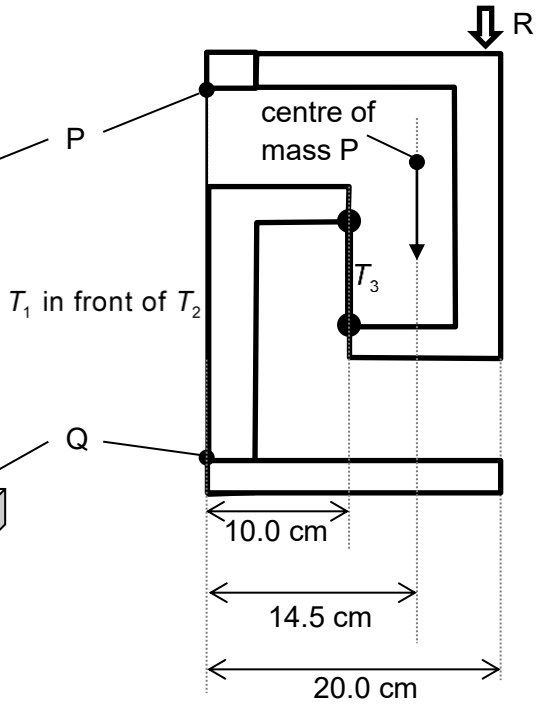

Fig. 2.2

Fig. 2.2 shows the side view of the 2 structures. The mass of body P is 350 g, and acts at a point along a vertical that is 14.5 cm away from wires under tension T_1 and T_2.

(a) On Fig. 2.1, draw arrows to indicate the direction of tensile forces in each of the 3 wires acting on body P. [1]

(b) At equilibrium, the magnitude of tensile forces in wire 1 and wire 2 is the same, $|T_1| = |T_2|$.

Determine the magnitude of T_3.

T_3 = ... N [2]

(c) Without further calculation, explain which of the wire(s) is/are more likely to break if a further load is placed onto the structure at location R.

.....

..... [1]