

10 What is the centre of gravity of an object?

- A the geometrical centre of the object
- B the point about which the total torque is zero
- C the point at which the weight of the object may be considered to act
- D the point through which gravity acts

11 The diagrams show two ways of hanging the same picture.

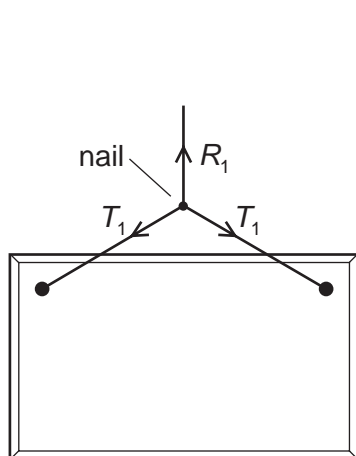


diagram 1

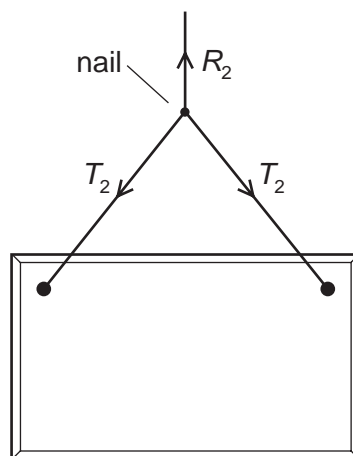


diagram 2

In both cases, a string is attached to the same points on the picture and looped symmetrically over a nail in a wall. The forces shown are those that act on the nail.

In diagram 1, the string loop is shorter than in diagram 2.

Which information about the magnitude of the forces is correct?

- A $R_1 = R_2$ $T_1 = T_2$
- B $R_1 = R_2$ $T_1 > T_2$
- C $R_1 > R_2$ $T_1 < T_2$
- D $R_1 < R_2$ $T_1 = T_2$

Space for working