4 **(a)** Define the *moment* of a force about a point.

....

.... [1]
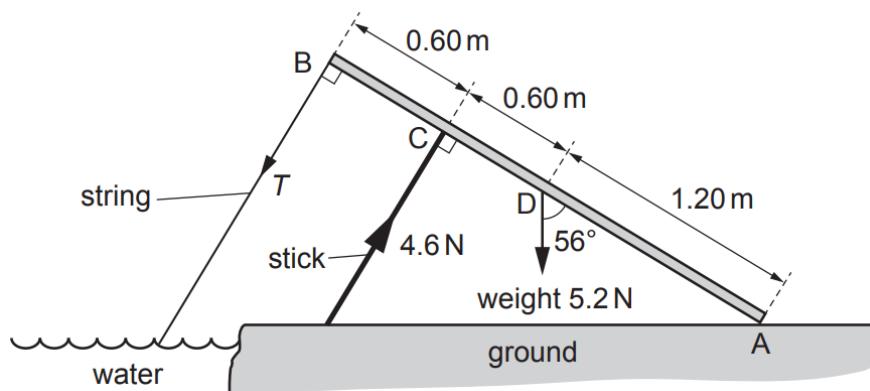
(b) A fishing rod AB is shown in Fig. 4.1.

Fig. 4.1

End A of the rod fixed to the ground and a string is attached to the other end B. A support stick exerts a force perpendicular to the rod at point C. The weight of the rod acts at point D.

The tension T in the string is in a direction perpendicular to the rod. The rod is in equilibrium and inclined at an angle of 56° to the vertical.

The forces and the distances along the rod of points A, B, C and D are shown in Fig. 4.1.

(i) Calculate the tension T.

$T =$ .... N [2]

(ii) Calculate the magnitude of the force acting on the rod at point A. State the angle of its direction with respect to the *rod*.

magnitude = ………………………………. N

angle = …………….. ° [3]