**5**

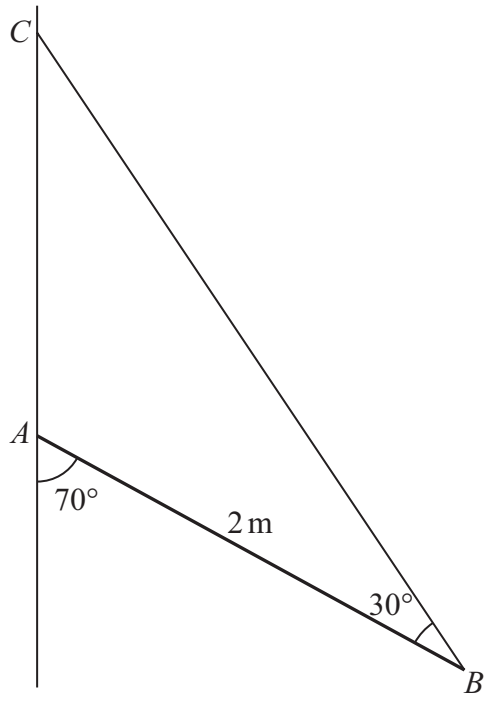



**Figure 2**

A uniform rod $AB$ has mass 6 kg and length 2 m. The end $A$ of the rod rests against a rough vertical wall.

One end of a light string is attached to the rod at $B$. The other end of the string is attached to the wall at $C$, which is vertically above $A$.

The angle between the rod and the string is 30° and the angle between the rod and the wall is 70°, as shown in Figure 2.

The rod is in a vertical plane perpendicular to the wall and rests in limiting equilibrium.

Find

(a) the tension in the string,

**(4)**

(b) the coefficient of friction between the rod and the wall,

**(5)**

(c) the direction of the force exerted on the rod by the wall at $A$.

**(2)**

**(Total for Question 5 is 11 marks)**