

- 11 Fig. 11 shows two blocks at rest, connected by a light inextensible string which passes over a smooth pulley. Block A of mass  $4.7\text{ kg}$  rests on a smooth plane inclined at  $60^\circ$  to the horizontal. Block B of mass  $4\text{ kg}$  rests on a rough plane inclined at  $25^\circ$  to the horizontal. On either side of the pulley, the string is parallel to a line of greatest slope of the plane. Block B is on the point of sliding up the plane.

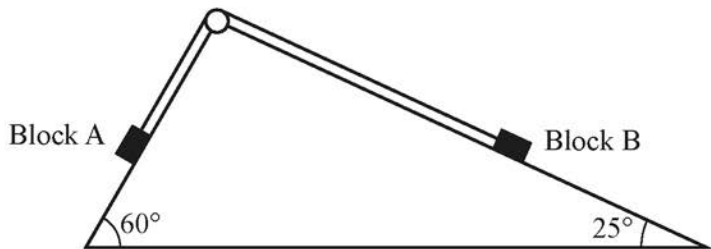


Fig. 11

- (i) Show that the tension in the string is  $39.9\text{ N}$  correct to 3 significant figures. [2]
- (ii) Find the coefficient of friction between the rough plane and Block B. [5]