Two racing cars A and B are at rest alongside each other at a point O on a straight horizontal test track. The mass of A is 1200 kg. The engine of A produces a constant driving force of 4500 N. When A arrives at a point P its speed is $25 \,\mathrm{m\,s^{-1}}$. The distance OP is d m. The work done against the resistance force experienced by A between O and P is 75000 J.

Show that $d = 100$.				
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Car B starts off at the same instant as car A. The two cars arrive at P simultaneously and with the same speed. The engine of B produces a driving force of 3200N and the car experiences a constant resistance to motion of 1200N.

(b)	Find the mass of B .	[3]
(c)		
	at P.	[3]