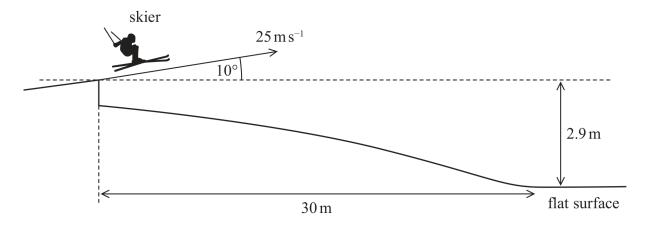
14 A skier moving at $25\,\mathrm{m\,s^{-1}}$ skis off a ramp. The ramp is angled upwards at 10° to the horizontal, as shown.

There is a flat surface that starts 30 m from the ramp. The flat surface is 2.9 m below the ramp.



(a) Deduce whether the skier reaches the flat surface before landing. You may ignore any effects of air resistance.

(b) Another skier travels along the horizontal surface with an initial speed of $23 \mathrm{ms^{-1}}$. She comes to rest after travelling a distance of $43 \mathrm{m}$.	
Calculate the average force required to bring the ski	ier to rest.
mass of skier = $63 \mathrm{kg}$	
	(3)
Average force =	
	(Total for Question 14 = 8 marks)