

2(a)	Use trajectory equation from MF19: $y = x \tan \theta - \frac{gx^2}{2u^2 \cos^2 \theta}$. $y = 2x - \frac{10x^2}{2u^2 \times \frac{1}{5}} = 2x - \frac{25x^2}{u^2}$
2(b)	$12 = 2 \times 8 - \frac{25 \times 8^2}{u^2}$
	$u^2 = 400 \quad [u = 20]$
	$0 = 2D - \frac{25D^2}{400} \quad \text{leading to} \quad [D = 0,] D = 32.$
	$7 = 2D - \frac{25D^2}{400} \quad \text{leading to} \quad [D = 4,] D = 28.$
	$28 \leq D \leq 32 \text{ only.}$