Question Number	Answer		Mark
13(a)(i)	Use of $s = ut + ½ at^2$	**(1)**	
	$t = 0.72$ (s)	**(1)**	**2**
	<u>Example calculation</u> $2.54\ \text{m} = (0 \times t) + ½ \times 9.81\ \text{m s}^{-2} \times t^2$ $t = 0.72$ s		
13(a)(ii)	Use of $s = ut + ½ at^2$ with $a = 0$	**(1)**	
	$u = 25\ \text{m s}^{-1}$ [ecf from (a)(i)] [Show that value gives $25.6\ \text{m s}^{-1}$]	**(1)**	**2**
	<u>Example calculation</u> $u_\text{H} = \frac{17.89\ \text{m}}{0.72\ \text{s}} = 24.8\ \text{m s}^{-1}$		
13(b)	(If the initial velocity is increased) the horizontal (component of) velocity is larger	**(1)**	
	The vertical (component of) velocity as the ball hits the ground is not affected	**(1)**	
	(When θ is the angle to the horizontal), $\tan(\theta) = \frac{v_\text{V}}{v_\text{H}}$ so θ decreases **Or** (When θ is the angle to the vertical), $\tan(\theta) = \frac{v_\text{H}}{v_\text{V}}$ so θ increases **Or** Labelled vector diagram showing how the angle changes if initial velocity of ball is increased.	**(1)**	**3**
	Total for question 13		**7**