Solution 1

(4 marks)

In a stunt at the opening of a football game, a passenger in a helicopter drops a football so that it lands in the centre of the football field. The helicopter is descending toward the ground at a constant velocity of 3.40 m s^{-1} when the football is released. The football takes 6.70 s to reach the ground. Assuming no air resistance, calculate the height in metres of the helicopter at the moment the football was released.

Description	Marks
$s = ut + \frac{1}{2} gt^2$	1
$s = (3.40 \times 6.7) + (\frac{1}{2} \times 9.8 \times 6.7^2)$ $s = 22.78 + 219.961$	1–2
$s = 243$ m	1
Note: If have u = 0 then s = 220 m maximum 3 marks	
Total	**4**