Daily Question

Day 1 Mechanics – Mark Scheme

Question 1

(a)	$s = vt - \frac{1}{2}at^2$ $40 = 10 \times 5 - \frac{1}{2}a5^2$ $a = 0.8$	M1 A2 A1	(4)
b)	Finding u (= 6) $s = ut + \frac{1}{2}at^2$ (A to M) $20 = 6t + \frac{1}{2}0.8t^2$ $t = \frac{-15 \pm \sqrt{225 + 200}}{2}$ $= 2.8$ or 2.81 or better	M1 M1 A1 **DM**1 A1	(5)

Question 2

(a)	$0^2 = 19.6^2 - 2 \times gH$ $H = 19.6\text{m}$ (20)	M1 A1	(2)
(b)	$14.7 = 19.6t - \frac{1}{2}gt^2$ $t^2 - 4t + 3 = 0$ $(t-1)(t-3) = 0$ $t = 1$ or 3; Answer 2 s	M1 A1 **DM**1 A1; A1	(5)