

Daily Questions Applied Maths Day 7 Mark Scheme

	$h = \frac{1}{2}gt^2$ $h = 7.35(t - \frac{1}{2}) + \frac{1}{2}g(t - \frac{1}{2})^2$ $\frac{1}{2}gt^2 = 7.35(t - \frac{1}{2}) + \frac{1}{2}g(t - \frac{1}{2})^2$ $t = 1$ $h = 4.9$	<p>B1</p> <p>M1 A1</p> <p>DM1</p> <p>M1 A1</p> <p>A1 7</p>
	<p style="text-align: center;"><u>NOTES</u></p> <p><u>Question</u></p> <p>B1 for $h = \frac{1}{2}gt^2$ or $h = \frac{1}{2}g(t + \frac{1}{2})^2$</p> <p>First M1 for $h = 7.35(t - \frac{1}{2}) + \frac{1}{2}g(t - \frac{1}{2})^2$ or $h = 7.35t + \frac{1}{2}gt^2$</p> <p>M0 if different t used in the two terms and M0 if two terms have opposite signs.</p> <p>First A1 for appropriate t value used</p> <p>Second M1, dependent, for equating their two expressions for h, but must have different t's in the two expressions</p> <p>Third M1, independent, for solving for their t (must have used two expressions etc.)</p> <p>Second A1 for $t = 1$ (or $t = \frac{1}{2}$)</p> <p>Third A1 for $h = 4.9$</p> <p>N.B. See alternative below where t is eliminated:</p> $h = \frac{1}{2}gt^2 \quad \text{B1}$ $h = 7.35(t - \frac{1}{2}) + \frac{1}{2}g(t - \frac{1}{2})^2 \quad \text{M1A1}$ $h = 7.35(\sqrt{\frac{2h}{g}} - \frac{1}{2}) + \frac{1}{2}g(\sqrt{\frac{2h}{g}} - \frac{1}{2})^2 \quad \text{DM1}$ $h = 7.35\sqrt{\frac{2h}{g}} - 3.675 + 4.9(\frac{2h}{g} - \sqrt{\frac{2h}{g}} + 0.25) \quad \text{A1}$ $h = 4.9 \quad \text{M1 A1}$	