| | | |
|---|---|---|
| | M($B$) $\left(R_D \times 0.36\right) = W\left(1.26 - x\right)$ | |
| **Question Number** | **Scheme** | **Marks** |
| **5(a)** | $P$ to $Q$<br>$6x = \left(\frac{u+2u}{2}\right)12$<br>**OR** $6x = 12u + \frac{1}{2} \times \frac{u}{12} \times 12^2$<br>**OR** $(2u)^2 = u^2 + 2 \times \frac{u}{12} \times 6x$ | M1 |
| | Reaches given answer from correct working<br>$x = 3u$ * | A1* |
| | | (2) |
| **5(b)** | $Q$ to $R$<br>e.g. $\left(3u\right)^2 = \left(2u\right)^2 + 2\left(1.5\right)\left(15u\right)$ | M1<br>A1 |
| | $u = 9$ | A1 |
| | | (3) |
| **5(c)** | $Q$ to $S$ ($t$ = 14 position)<br>$QS = 2u \times 2 + \frac{1}{2} \times 1.5 \times 2^2$ | M1<br>A1 |
| | $(4u + 3) + 18u$ | M1 |
| | 201 (m) | A1 |
| | | (4) |
| **(9)** | | |

| | | |
|---|---|---|
| | **NOTES** | |
| **(a)** | | |
| **M1** | Considers $P$ to $Q$ and forms a relevant equation in terms of $u$ and $x$ | |
| **A1*** | Reaches given answer from correct working | |
| **(b)** | | |
| **M1** | Uses the given answer in (a) to form an equation in $u$ only<br>**N.B.** If brackets missing, allow M1, but allow recovery. | |
| **A1** | Correct unsimplified equation in $u$ only | |
| **A1** | Correct answer | |
| **(c)** | | |
| **M1** | Complete method to find the distance travelled in the 2 seconds after passing $Q$ | |
| **A1** | Correct unsimplified expression in $u$ only (or 39 m) | |
| **M1** | Complete method to find the required distance (need 18$u$ or 6$x$) | |
| **A1** | Correct answer | |