| Question | Answer | Marks | Partial Marks |
|---|---|---|---|
| 10(b) | $[v=]19t+\frac{5}{2}e^{8-2t}(+c)$ oe | **M1** | |
| | $[v=]19t+\frac{5}{2}e^{8-2t}-\frac{137}{2}$ oe | **A1** | **FT** (*their* 10) – 78.5 |
| | $[s=]\frac{19t^2}{2}-\frac{5}{4}e^{8-2t}-\frac{137}{2}t(+d)$ oe | **M1** | **dep** on previous **M1**<br>**FT** *their* $-\frac{137}{2}$ provided not 0 or algebraic |
| | $[s=]\frac{19t^2}{2}-\frac{5}{4}e^{8-2t}-\frac{137}{2}t+\frac{509}{4}$ oe, cao | **A1** | |
| | $s$ = 392 or 392.2[49…] | **A1** | |
| 11(a) | $ar+ar^2=168$ or $ar^3+ar^4=94.5$ oe soi | **B1** | |
| | $\frac{ar^3(1+r)}{ar(1+r)}=\frac{94.5}{168}$ oe | **M1** | Correct equation where $a$ can be directly eliminated |
| | $168r^2 = 94.5$ oe | **M1** | |
| | $r=\frac{3}{4}$ only nfww | **A1** | |
| | $\frac{3}{4}a+\frac{9}{16}a=168$ oe | **M1** | **FT** *their r* |
| | $a$ = 128 | **A1** | |
| | $u_6=\frac{243}{8}$ only oe, isw | **B1** | |
| 11(b) | 512 | **B1** | |

© Cambridge University Press & Assessment 2025