

| Question | | Answer | Mark | Guidance |
|----------|-----|--|-----------------------------|--|
| 1 | (a) | $-4e^{-4x}$ oe | B2 [2] | B1 for e^{-4x} seen as part of answer, not in denominator |
| 1 | (b) | By quotient rule $\frac{(x+1) \times 2x - x^2 \times 1}{(x+1)^2}$ | B1 B1 | B1: correct denominator & 1 correct term in numerator, any form ISW |
| | | Alternative method – chain rule or $-(x+1)^{-2} \times x^2 + (x+1)^{-1} \times 2x$ | B1 B1 | B1 for either term correct ISW |
| | | $(= \frac{x(x+2)}{(x+1)^2} \text{ or } \frac{x^2+2x}{x^2+2x+1})$ | [2] | |