

$$\text{iv) } \int_1^5 (2x+3)(x+3) dx$$

$$= 2 \int_1^5 x^2 dx + 3 \int_1^5 x dx + 21 \int_1^5 1 dx$$

$$\int x^2 dx$$

$$= \frac{x^3}{3}$$

$$\int 1 dx = x$$

$$x \left( \frac{4x^2 + 39x + 126}{6} \right) + C$$