

$$35) \int (x^2 + 2x + 2) dx$$

$$\int x^2 dx + \int 2x dx + \int 2 dx$$

$$\int x^2 dx + 2 \int x dx + 2 \int 1 dx$$

$$\frac{x^3}{3} + 2 \cdot \frac{x^2}{2} + 2x + C$$

$$\frac{x^3}{3} + x^2 + 2x + C //$$

$$\bullet f(x) = \frac{x^3}{3} + x^2 + 2x + C$$

$$= \frac{d}{dx} \frac{x^3}{3} + \frac{d}{dx} x^2 + \frac{d}{dx} 2x + C$$

$$= \cancel{\frac{3x^2}{2}} + 2x + 2 + 0$$

$$= x^2 + 2x + 2 //$$