

$$23) \int (3x^2 + 1) dx$$

$$\int 3x^2 dx + \int dx$$

$$3 \int x^2 dx + x$$

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

$$x^3 + x + C //$$

$$24) \int (x^3 + 2x) dx$$

$$\int x^3 dx + \int 2x dx$$

$$\int x^3 dx + 2 \int x dx$$

$$= \frac{x^4}{4} + \frac{2x^2}{2} + C$$

$$\frac{x^4}{4} + x^2 + C //$$

$$25) \int (-x^3 - 3x^2) dx$$

$$\int -x^3 dx - \int 3x^2 dx$$

$$\int -x^3 dx - 3 \int x^2 dx$$

$$= -\frac{x^4}{4} - \frac{3x^3}{3} + C$$

$$-\frac{x^4}{4} - x^3 + C //$$

$$26) \int (5x^3 - 3x - 2) dx$$

$$\int 5x^3 dx - \int 3x dx - \int 2 dx$$

$$5 \int x^3 dx - 3 \int x dx - 2 \int dx$$

$$\frac{5x^4}{4} - \frac{3x^2}{2} - 2x + C //$$

$$\bullet f(x) = x^3 + x + C$$

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

$$= 3x^2 + 1 + 0$$

$$= 3x^2 + 1 //$$

$$\bullet f(x) = \frac{x^4}{4} + x^2 + C$$

$$= \frac{d}{dx} \frac{x^4}{4} + \frac{d}{dx} x^2 + \frac{d}{dx} C$$

$$= \frac{4x^3}{4} + 2x + 0$$

$$= x^3 + 2x //$$

$$\bullet f(x) = -\frac{x^4}{4} - x^3 + C$$

$$= \frac{d}{dx} -\frac{x^4}{4} - \frac{d}{dx} x^3 + \frac{d}{dx} C$$

$$= -\frac{4x^3}{4} - 3x^2 + 0$$

$$= -x^3 - 3x^2 //$$

$$\bullet f(x) = \frac{5x^4}{4} - \frac{3x^2}{2} - 2x + C$$

$$= \frac{d}{dx} \frac{5x^4}{4} - \frac{d}{dx} \frac{3x^2}{2} - \frac{d}{dx} 2x + C$$

$$= \frac{5 \cdot 4x^3}{4} - \frac{3 \cdot 2x}{2} - 2 + 0$$

$$= 5x^3 - 3x - 2 //$$