

$$a) \int (x^4 - x^3 + 2x^2 + 4x - 3) dx$$

$$\frac{x^{4+1}}{4+1} - \frac{x^{3+1}}{3+1} + \frac{2x^{2+1}}{2+1} + \frac{4x^{1+1}}{1+1} - \frac{3x^{0+1}}{0+1}$$

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

$$b) \int \left(\frac{2}{x^2} + \frac{3}{x^3} \right) dx$$

$$\int \frac{2}{x^2} dx + \int \frac{3}{x^3} dx$$

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

$$c) \int \left(\sqrt{x} + \frac{1}{\sqrt{x}} \right) dx$$

$$\int (x^{1/2} + x^{-1/2}) dx$$

$$\frac{x^{1/2+1}}{1/2+1} + \frac{x^{-1/2+1}}{-1/2+1}$$

$$\frac{2 \times \sqrt{x}}{3} + 2\sqrt{x} + C$$

$$d) \int \left(\frac{x^2 + x - 1}{x^2} \right) dx$$

$$\int \left(\frac{x^2}{x^2} + \frac{x}{x^2} - \frac{1}{x^2} \right) dx$$

$$\int \left(1 + \frac{1}{x} - \frac{1}{x^2} \right) dx$$

$$\int 1 dx + \int \frac{1}{x} dx - \int \frac{1}{x^2} dx$$

$$x + \ln x + \frac{1}{x} + C$$

$$e) \int 2 \sec x \cdot \tan x dx$$

$$2 \sec x + C$$

$$f) \int (2e^x + 3 \cdot 4^x) dx$$

$$2e^x + 3 \cdot \frac{2^{x-1}}{\ln 2} dx$$

$$2e^x + \frac{3 \cdot 2^{x-1}}{\ln 2} + C$$

$$g) \int \left(\frac{1}{x} + \frac{1}{x^2} \right) dx$$

$$\int \frac{1}{x} dx + \int \frac{1}{x^2} dx$$

$$\ln x - \frac{1}{x} + C$$

$$h) \int 3^x \cdot 2^x dx$$

$$\int (3 \cdot 2)^x dx$$

$$\int 6^x dx$$

$$\frac{6^x}{\ln 6} + C$$