

Solutions

Each answer shows the steps, then the **result**.

2.1

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

2.2

- $x^4 - x^2 + C$

2.3

- $\ln|x| + e^x + C$

3.1 B

- $\int \cos x \, dx = \sin x + C$

3.2

(a)

- $F(x) = x^3 + 2x^2 + C$

(b)

- $F(0) = C = 5$, so $F(x) = x^3 + 2x^2 + 5$

3.3

- $\int (x^{1/2} + 2x^{-1}) \, dx = \frac{x^{3/2}}{3/2} + 2 \ln|x| + C = \frac{2}{3}x^{3/2} + 2 \ln|x| + C$