Definite Integrals – Questions

Q1) Evaluate the following definite integrals.

a) $\int_1^3 2x + 4\ dx$

c) $\int_{-1}^2 3x^2 + 5x\ dx$

e) $\int_0^3 2x + 1\ dx$

b) $\int_0^4 6 - 3x\ dx$

d) $\int_{-2}^2 2x^3\ dx$

f) $\int_{-2}^1 5 - x^3\ dx$

Q2) Rewrite the expression and evaluate the definite integral.

a) $\int_1^3 \frac{2}{x^{-3}}\ dx$

c) $\int_{-2}^{-1} \frac{4}{3x^5}\ dx$

b) $\int_{-1}^2 (x + 2)(3x - 2)\ dx$

d) $\int_4^9 3\sqrt{x}\ dx$

Q3) Evaluate the following definite integrals using the Chain Rule.

a) $\int_1^3 (x - 2)^4\ dx$

c) $\int_{-3}^{-1} (2x + 3)^5\ dx$

b) $\int_0^1 (5x - 4)^3\ dx$

d) $\int_{-2}^{-1} \frac{1}{(1-x)^3}\ dx$

Definite Integrals – Solutions

Q1) a) 16   c) 16.5   e) 12

    b) 0   d) 0   f) 18.75

Q2) a) $\frac{8}{9}$ b) 4   c) $-\frac{5}{16}$ d) 38

Q3) a) $\frac{2}{5}$ b) $-\frac{255}{20}$ c) $-\frac{728}{12}$ d) 0.069