

1 Differentials of One Variable

Find the total differential of the following functions:

(a) $y = 3x^2 + 4 \cos 2x$

(b) $y = 3x^2 \cos kx$ (where k is a constant)

(c) $y = \frac{\cos 7x}{x^2}$

(d) $y = \cos(3x^2 - 2)$