

3.3 Maclaurin Series

3.3.1 Maclaurin Series

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Total Marks

/10

1 (a)

$$y = \sin x \sinh x$$

a) Show that $\frac{d^4 y}{dx^4} = -4y$

(4 marks)

- (b)** (b) Hence find the first three non-zero terms of the Maclaurin series for y , giving each coefficient in its simplest form.

(4 marks)

- (c)** (c) Find an expression for the n th non-zero term of the Maclaurin series for y .

(2 marks)