

MTH647

Methods in Mathematical Physics

Formula Sheet

1 Chapters, 148 Formulas

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$$= + -$$

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$$+$$

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$$= +$$

$$= - +$$

$$= - + -$$

$$= + = \dots$$

$$+$$

$$+ = + \{ \}$$

$$= + -$$

$$0+1 \quad 1$$

$$0+1 \quad 1 = 1$$

$$+1$$

$$+1 = (+1)!$$

$$+1$$

$$+1 = - +1$$

$$+1$$

$$+1 = +1 -$$

$$+1$$

$$+1 = -1$$

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$$+1 = -1$$

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$$+1 = -1$$

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$$+1 = (+1)!$$

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$$2 + 2 = -2 (-2)$$

$$+ 2 2$$

$$+ 2 2 = -3 - 2 - 3 (-3)$$

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$$+ 2 2 = 1$$

$$0 -$$

$$0 - = - =$$

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$$+ - = 1$$

$$'' + 3' + 2$$

$$'' + 3' + 2 = -1 - -2$$

$$'' + 3' + 2$$

$$'' + 3' + 2 = -1 - -2 \dots (1)$$

$$2 - 0 - '0 + 3 - 0 + 2$$

$$2 - 0 - '0 + 3 - 0 + 2 = -$$

$$2 + 3 + 2$$

$$2 + 3 + 2 = 1$$

$$2 + 3 + 2$$

$$2 + 3 + 2 = \text{we have}$$

$$+ 2 + 1$$

$$+ 2 + 1 =$$

$$'' + 3' + 2$$

$$'' + 3' + 2 = -1$$

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$$['' + 3' + 2] = -1$$

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$$2 + 3 + 2 = -$$

$$2 + 3 + 2$$

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$$= -1 + 1$$

$$= - + 1$$

$$= -1 + 1 + 1$$

$$1 + 2$$

$$1 + 2 = -1 - 1$$

$$1 + 322$$

$$1 + 322 = 3$$

$$= +$$

$$+$$

$$+ = + - \ln(+)$$

$$+$$

$$+ = -$$

$$-1$$

$$-1 = -1 +$$

$$+$$

$$+ = ---$$

$$= \lim$$

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$$- = 0$$

$$= -1 \quad --1$$

$$= +$$

+

$$+ = + - +$$

distinct zeroes, " r ;

distinct zeroes, " $r_i = 1, 2, \dots$ " i.e. $= -1 -2 \dots -$,
then

$$= r$$

" r ;

$$"r_i = 1, 2, \dots "$$

$$= r$$

$$3 + 2 - 2$$

$$3 + 2 - 2 = ?$$

$$= r$$

$$= r$$

rt

$$rt = 0$$

$$= 2 + --2$$

$$" + 1 - ' +$$

$$" + 1 - ' + = 0$$

$$\begin{aligned} &'' + ' - ' + \\ &'' + ' - ' + = 0 \dots (1) \end{aligned}$$

$$\begin{aligned} &+ \\ &+ = 0 \end{aligned}$$

$$\begin{aligned} &+ + 1 - \\ &+ + 1 - = 0 \end{aligned}$$

$$= -1 - + 1 = -1 - + 1$$

$$\begin{aligned} &- 0 - + 0 - 2 - \\ &- 0 - + 0 - 2 - = 6 \end{aligned}$$

$$\begin{aligned} &- 3 ; 2 - 2 0 + - 0 - 3 - 3 \\ &- 3 ; 2 - 2 0 + - 0 - 3 - 3 = 6 \end{aligned}$$

$$= -1 = + 2 + 23$$

$$= 0 - 1. , + , = , - , 0$$

$$= 2 , - , 0 + ,$$

$$\begin{aligned} &- 2 + 1 , \\ &- 2 + 1 , = -12 - 3 \dots 1 \end{aligned}$$

$$\begin{aligned} &. \\ &. = - 2 + 1 = - 2 + 1 \end{aligned}$$

$$\begin{aligned} &. \times \\ &. \times = + . \times . . \end{aligned}$$

$$\begin{aligned} &- 2 + 1 \times \\ &- 2 + 1 \times = + - 2 + 1 \times -12 - 3 \end{aligned}$$

$$\begin{aligned} &- 2 + 1 \times \\ &- 2 + 1 \times = - \end{aligned}$$

$$+ 2$$

$$+ 2 = 6 - 3 - 2$$

Good Luck!

Keep practicing!