

MATHS

NCERT - NCERT MATHEMATICS (GUJRATI)

APPENDIX 1 INFINITE SERIES

Example

1. Expand $\left(1 - \frac{x}{2}\right)^{-\frac{1}{2}}$, when $|x| < 2$.

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2. Find the sum of infinity of the G.P.,

$$\frac{-5}{4}, \frac{5}{16}, \frac{-5}{64}, \dots$$

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3. Find the coefficient of x^2 in the expansion of e^{2x+3} as a series in powers of x .

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4. Find the value of e^2 , rounded off to one decimal place.

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5. If α, β are the roots of the equation $x^2 - px + q = 0$, prove that

$$\log_e(1 + px + qx^2) = (\alpha + \beta)x - \frac{\alpha^2 + \beta^2}{2}x^2 + \frac{\alpha^3 + \beta^3}{3}x^3 - \dots$$

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