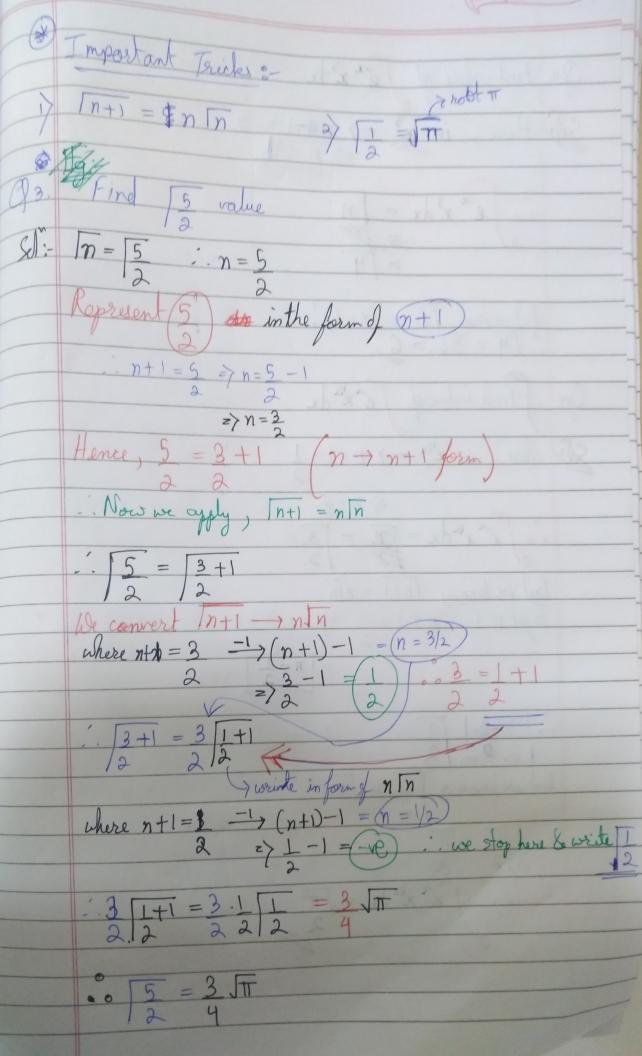
Gamma Function: For a positive value of n (n>0) $\int e^{-x} x^{n-1} dx = \ln x$ where [n = (n-1)] Eg: [5 = 4]. Here T is not root/square root g. Find value of lexxtdx Self Here, $\int_{-\infty}^{\infty} x^{n-1} dx = In$ $2^{n-1} = 2^{n-1} = 7$ $= 2 \times n = 8$ -- 2 dx = 18 Weknow, - [n-1)! 18 = (8-1)!= 71 $e^{-x} dx = 7!$ In Jexx dx, efthere is a constant à over e i.e. e-ax $\int_{a}^{a} \int_{a}^{a} \frac{e^{-ax} x^{n-1} dx}{a^n} = \int_{a}^{n} \int_{a}^{n} \frac{e^{-ax} x^{n-1} dx}{a^n}$ gr. Find value of Je x10 dx Sol: Je x 10 dx = [1] (where n=11 & a=4)



Ju Find value of Jex 2 dx Here, in $x^3 \rightarrow n = 3$ $\Rightarrow n = 4$ $e^{-x} x^3 dx = n$ $= \sqrt{4}$ Ds. Ffind value of Pexx1/2 dx Here, in x1/2 $\Rightarrow n = \frac{3}{2}$ $e^{x} x^{1/2} dx = \boxed{31} = \boxed{3}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ we know, Int 0.3-02/2 $\frac{1}{2} = \sqrt{\pi}$