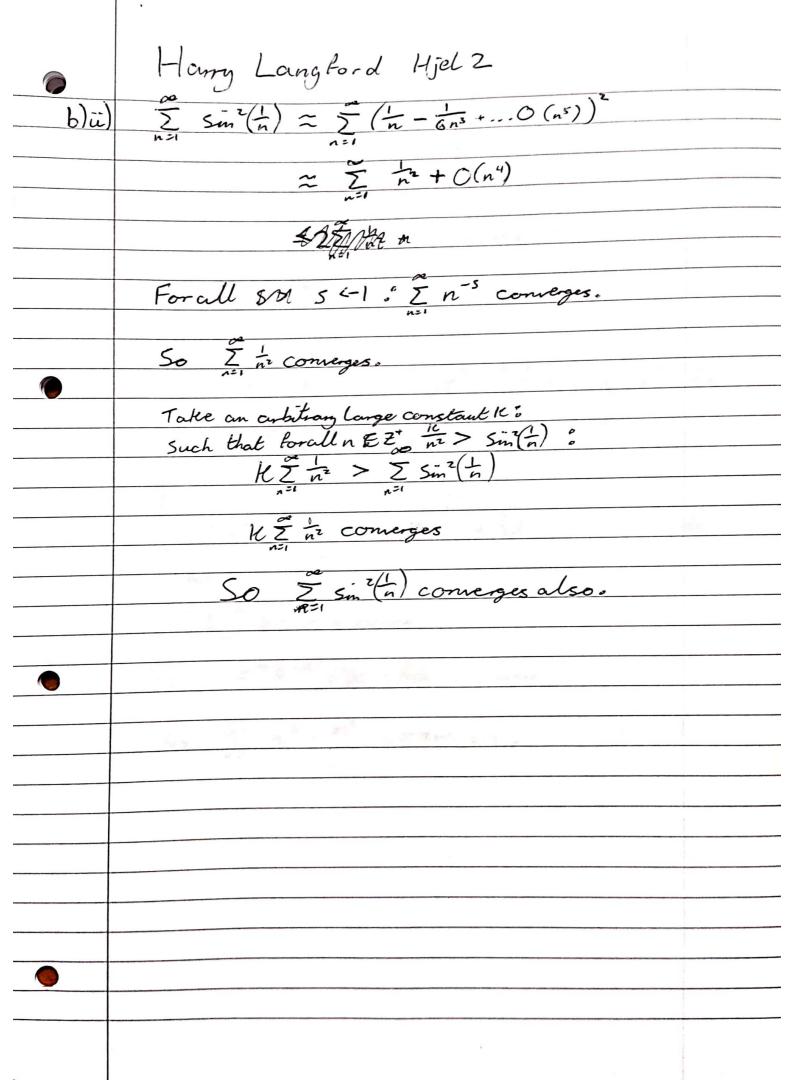
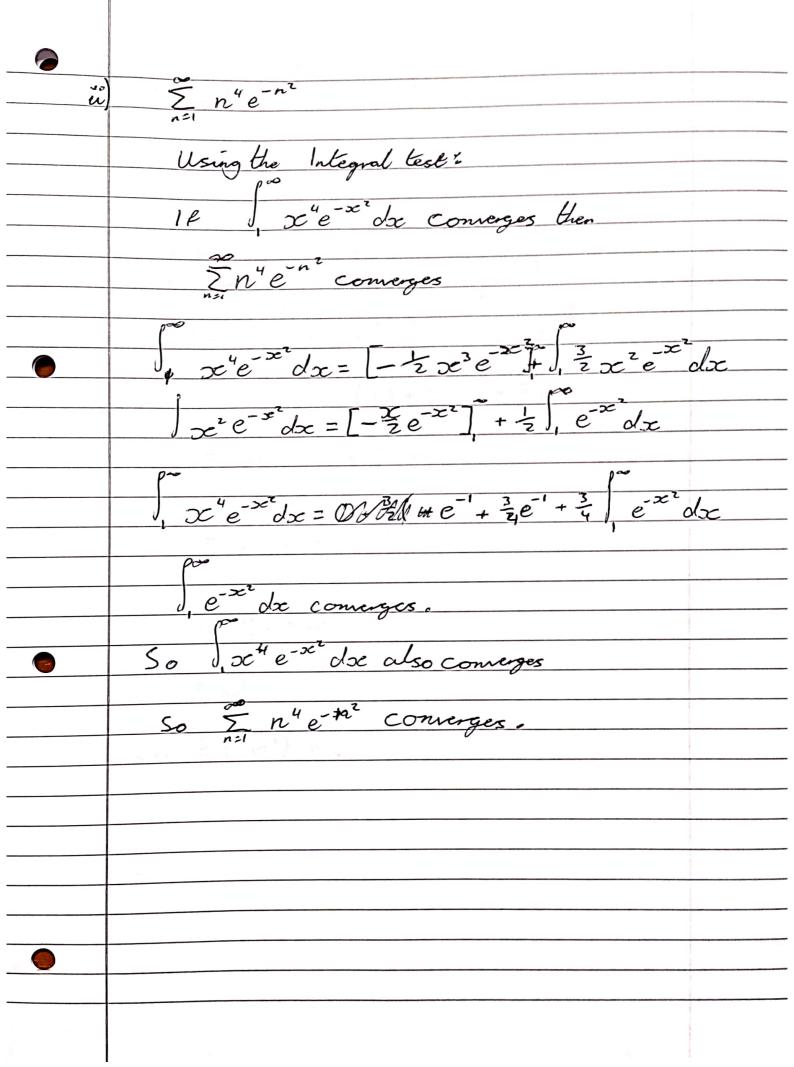
Harry Langford HielZ Harry Langford-Hjelz The ratio test says that if lum | Va | L | then the series converges .. The companisor test says that

y Vn: Un 30 n Vn 7, 0 E Un comeges then if for all n: Z Vn also 7 2-1cos(n) 1 Sin (n) = 2 (n-(n) = 0 (1)) ≈ E n2+0(n) 5 th converges with forfall 84 SUT: 2 812 comages





$$C(x) = \lim_{x \to \infty} x^{2}e^{-\frac{x^{2}}{2}} dx$$

$$= \frac{1}{\sqrt{2\pi}} \int \frac{dv}{u} dx dx$$

$$= \lim_{x \to \infty} \frac{1}{\sqrt{2\pi}} \int \frac{dv}{u} dx dx$$

$$= \lim_{x \to \infty} \left[ -x^{2}e^{-\frac{x^{2}}{2}} \right] + \int 2xe^{-\frac{x^{2}}{2}} dx$$

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$$= \lim_{x \to \infty} \left[ -e^{-\frac{x^{2}}{2}} \right] = 0$$

$$= 0$$

$$= 0$$

$$= 0$$

$$= 0$$

$$= 0$$

$$= 0$$

<u> </u>	$E(xy) = \frac{1}{12\pi} \int_{-\infty}^{\infty} x^{2} e^{-\frac{x^{2}}{2}} dx$
	$= \sqrt{2\pi} \left( \left[ -\infty^3 e^{-\frac{x^2}{2}} \right]_0^{\infty} + \left[ 3x^2 e^{-\frac{x^2}{2}} \right]_{\infty}^{\infty} \right)$
	$= \frac{3}{\sqrt{2\pi}} \int_{-\infty}^{\infty} x^2 e^{-\frac{x^2}{2}} dx$
	Since [-x3e-2] = 0
	$= \sqrt{2\pi} \left[ -xe^{-\frac{x^2}{2}} \right]^{\infty} + \left[ e^{-\frac{x^2}{2}} dx \right]$
	$= \sqrt{2\pi} \int_{-\infty}^{\infty} e^{-\frac{\pi}{2}} dse$
	3 52n = 177
	= \[ \frac{720}{20} \]
	$= \sqrt{2\pi}$
	\circ
	\circ
	\cut
	\circ
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