

Fe Ol₄ a

Ex 2

$$2) \quad z_3 = \left(\frac{(3+2i)}{(1-5i)^3} \right)^4$$

$$|z_3| = \left| \left(\frac{(3+2i)}{(1-5i)^3} \right)^4 \right| = \left(\frac{|3+2i|}{|1-5i|^3} \right)^4$$

$$= \left(\frac{\sqrt{3^2+2^2}}{\sqrt{1^2+(-5)^2}^3} \right)^4 = \left(\frac{\sqrt{13}}{\sqrt{26}^3} \right)^4$$

$$= \frac{\sqrt{13}^4}{\sqrt{26}^{12}} = \frac{\sqrt{13}^4}{\sqrt{13}^{12} \times \sqrt{2}^{12}} = \frac{1}{\sqrt{13}^8 \times 2^6}$$

$$|z_3| = \frac{1}{13^4 \times 2^6}$$