VIII. Calculating limits: i) Plug-in limits: Le We don't have problems in plugging the number in the limit capplying the value dreatly to the limit). * Examples: O $lim (4x^2 + 5x + 1) = 10$ $\bigotimes_{\substack{x \neq z}} \lim_{x \to z} \frac{4x - 3}{x = 5}$ Zx-1 3 . * Mathematical inconsistencies. 4 We have problems (mothermatical sale: CO. UK applying the value duction Note sale: CO. UK * Examples: view from 6 of 11 @ lim Preview Rage 6 of 1 Preview Rage 5 (***) = 3 *** (2) $\lim_{x \to 2} \frac{x^2 - 3x + z}{x - z} = \lim_{x \to 2} \frac{(x - z)(x - 1) = 1}{x - z}$ * Factoration techniques: $a^2 - b^2 = (a + b)(a - b)$ $a^{2} \pm 7ab + b^{2} = (a \pm b)^{2} = (a + b)(a + b) or (a - b)(a - b)$ $a^{3} \pm b^{3} = (a \pm b)(a^{2} \mp ab \pm b^{2})$ · Extractions roots diem polymennials: a(x-x:)(x-x:)