

$$\bullet (x+1)^3 \neq x^3+1$$

caso base

$$(1+1)^3 = 1^3+1$$

$$2^3 = 1^3+1$$

$$8 \neq 2$$

$$\bullet (x+1)^3 = x^3+3x^2+3x+1$$

caso base  $x=1$

$$(1+1)^3 \neq 1^3+3(1)^2+3(1)+1$$

$$8 = 1+3+3+1$$

$$8 = 8$$

caso inductivo

$x+1$

$$(x+1+1)^3 = (x+1)^3+3(x+1)^2+3(x+1)+1$$

$$(x+2)^3 = x^3 + \underline{2x^2} + \underline{4x} + \underline{x^2} + \underline{2x} + 1$$

$$x^3 + 3x^2 + 3x + 1 + 3(x^2+2x+1) + 3(x+1)+1$$

$$x^3 + \underline{3x^2} + \underline{3x} + \underline{1} + \underline{3x^2} + \underline{6x} + \underline{3} + \underline{3x} + \underline{3} + \underline{1}$$

$$x^3 + (x^2 + 9x + 7) + 3x + 3 + 1$$

$$= x^3 + 6x^2 + 12x + \frac{7+1}{8}$$

$$x^3 + 2(x^2)(2) + (x)(2)^2 +$$

$$(x)^3 + 2(x)(2)^2 + 2^3$$

$$x^3 + \underline{4x^2} + \underline{4x} + \underline{2x^2} + \underline{8x} + 8 =$$

$$x^3 + 6x^2 + 12x + 8 =$$