

LIMITES LATERAIS e INFINITOS



$$l) \lim_{x \rightarrow +\infty} \frac{6x^4 + 3x - 8}{2x^4 + 1} = \lim_{x \rightarrow +\infty} \frac{x^4 \left(6 + \frac{3}{x^3} - \frac{8}{x^4} \right)}{x^4 \left(2 + \frac{1}{x^4} \right)}$$

Handwritten annotations: The numerator terms are labeled with their degrees: $6x^4$ is $+\infty$, $3x$ is $+\infty$, and -8 is -8 . The denominator terms are labeled: $2x^4$ is $+\infty$, and 1 is $+1$. The overall limit is labeled $+\infty$. In the factored form, the x^4 terms are crossed out with orange lines. The terms 6 , $\frac{3}{x^3}$, and $-\frac{8}{x^4}$ are circled in purple, with a purple arrow pointing to the number 6 and the label $= 6$. The terms 2 and $\frac{1}{x^4}$ are circled in purple, with a purple arrow pointing to the number 2 and the label $= 2$.

$\frac{8}{8} \rightarrow$ indeterminado

$$\frac{\infty}{8} \rightarrow 0$$

$$= \frac{6}{2} = \boxed{3}$$