

$$\lim_{x \rightarrow 3} \frac{x^2 - 5x + 6}{3 - x} \stackrel{\left(\frac{0}{0}\right)}{=} \lim_{x \rightarrow 3} \frac{(x-3) \cdot (x-2)}{-x+3} = \lim_{x \rightarrow 3} \frac{\cancel{(x-3)} \cdot (x-2)}{\cancel{-(x-3)}} = \lim_{x \rightarrow 3} -(x-2) = \lim_{x \rightarrow 3} (-x+2) = -3 + 2 = -1$$

Apön

$$a^3 - b^3 = (a-b) \cdot (a^2 + ab + b^2) \quad (1)$$

$$a^3 + b^3 = (a+b) \cdot (a^2 - ab + b^2) \quad (2)$$

$$\lim_{x \rightarrow 2} \frac{x^2 - 6x + 8}{x^3 - 8} \stackrel{\left(\frac{0}{0}\right)}{=} \lim_{x \rightarrow 2} \frac{(x-2) \cdot (x-4)}{(x-2) \cdot (x^2 + 2x + 4)} = \lim_{x \rightarrow 2} \frac{x-4}{x^2 + 2x + 4} = \frac{2-4}{2^2 + 2 \cdot 2 + 4} = \frac{-2}{12} = -\frac{1}{6}$$

Apön

2. sywa (1)

δiw xrw

$$\lim_{x \rightarrow -3} \frac{2x+6}{27+x^3} \stackrel{\left(\frac{0}{0}\right)}{=} \lim_{x \rightarrow -3} \frac{2 \cdot (x+3)}{(3+x)(3^2 - 3 \cdot x + x^2)} = \lim_{x \rightarrow -3} \frac{2}{9 - 3x + x^2} = \frac{2}{9 - 3 \cdot (-3) + (-3)^2} = \frac{2}{9 + 9 + 9} = \frac{2}{27}$$

Apön

2. sywa (2)

$$\lim_{x \rightarrow 1} \frac{\sqrt{x+3} - 2}{1-x^2} \quad \left(\frac{0}{0} \right) \quad \text{Apos5} \quad \lim_{x \rightarrow 1} \frac{(\sqrt{x+3}-2) \cdot (\sqrt{x+3}+2)}{(x-1)(-x-1)(\sqrt{x+3}+2)} =$$

$$\lim_{x \rightarrow 1} \frac{\sqrt{x+3} - 2}{(x-1)(-x-1)(\sqrt{x+3}+2)} = \lim_{x \rightarrow 1} \frac{\cancel{x-1}}{(\cancel{x-1})(-x-1)(\sqrt{x+3}+2)} = \lim_{x \rightarrow 1} \frac{1}{(-x-1)(\sqrt{x+3}+2)} =$$

$$\frac{1}{(-1-1) \cdot (\sqrt{1+3}+2)} = \frac{1}{-2 \cdot 4} = -\frac{1}{8}$$