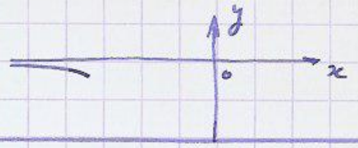
6) $\lim\limits_{x \to -\infty} \dfrac{3x - 11}{2 + x^2} = \text{"}\dfrac{-\infty}{+\infty}\text{"} = \lim\limits_{x \to -\infty} \dfrac{3x}{x^2} = \lim\limits_{x \to -\infty} \dfrac{3}{x} = \text{"}\dfrac{3}{-\infty}\text{"} = 0^-$.

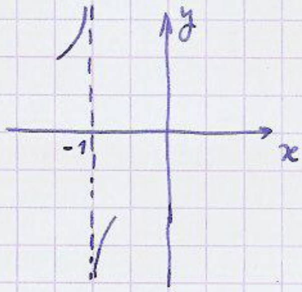
$AH \equiv y = 0$ $\quad f(-100) \simeq -0{,}0311 < 0$



7) $\lim\limits_{x \to -2} \dfrac{x^5 + 8x}{x^3 - 8} = \dfrac{-48}{-16} = 3$ $\quad (= f(-2)\ ;\ f$ est continue en $x = -2)$.

8) $\lim\limits_{x \to -1} \dfrac{x^2 - x - 2}{(x+1)^2} = \text{"}\dfrac{0}{0}\text{"} = \lim\limits_{x \to -1} \dfrac{(x+1)(x-2)}{(x+1)^2}$

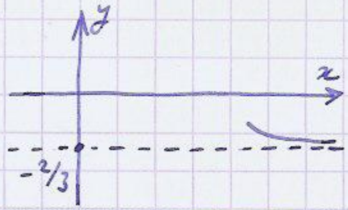
$\overset{x \neq -1}{=} \lim\limits_{\substack{x \to -1 \\ <\\>}} \dfrac{x - 2}{x + 1} = \text{"}\dfrac{-3}{0^{\pm}}\text{"} = \pm\infty \quad \to \quad AV \equiv x = -1$



9) $\lim\limits_{x \to +\infty} \dfrac{3 - 2x}{\sqrt{9x^2 + 1}} = \text{"}\dfrac{-\infty}{+\infty}\text{"} = \lim\limits_{x \to +\infty} \dfrac{-2x\left(\frac{3}{-2x} + 1\right)}{\sqrt{9x^2\left(1 + \frac{1}{9x^2}\right)}}$

$\overset{x > 0}{=} \lim\limits_{x \to +\infty} \dfrac{-2x\left(\overset{\to 0}{\frac{3}{-2x}} + 1\right)}{3x\sqrt{1 + \underset{\to 0}{\frac{1}{9x^2}}}} = \dfrac{-2}{3} \to AH \equiv y = -\dfrac{2}{3}$

$f(100) \simeq -0{,}6567 > -\dfrac{2}{3} = -0{,}6666\ldots$



10) $\lim\limits_{x \to -\infty} \left(\sqrt{4x^2 + 5x} + 2x\right) = \text{"}+\infty - \infty\text{"}$

$= \lim\limits_{x \to -\infty} \dfrac{\left(\sqrt{4x^2 + 5x} + 2x\right).\left(\sqrt{4x^2 + 5x} - 2x\right)}{\sqrt{4x^2 + 5x} - 2x}$

$= \lim\limits_{x \to -\infty} \dfrac{5x}{\sqrt{4x^2 + 5x} - 2x} = \text{"}\dfrac{-\infty}{+\infty}\text{"} = \lim\limits_{x \to -\infty} \dfrac{5x}{\sqrt{4x^2\left(1 + \frac{5}{4x}\right)} - 2x}$

$\overset{x < 0}{=} \lim\limits_{x \to -\infty} \dfrac{5x}{-2x\sqrt{1 + \underset{\to 0}{\frac{5}{4x}}} - 2x} = -\dfrac{5}{4} \to AH \equiv y = -\dfrac{5}{4}$

$f(-100) \simeq -1{,}2539 < -\dfrac{5}{4} = -1{,}25$.