OPDRACHT 2

① a) $-5 \cdot (-\infty) = +\infty$

b) $(-\infty) + 10^9 = -\infty$

c) $8 - \frac{10}{-\infty} = 8 - (0) = 8$

d) $3(-\infty)^3 + 5(-\infty)^2 = 3(-\infty) + 5(+\infty) = -\infty + (+\infty) = /$

② $\lim_{x \to 6} f(x) = /$ $\lim_{\substack{x \to 6 \\ <}} f(x) = -\infty$ $\lim_{\substack{x \to 6 \\ >}} f(x) = +\infty$

$\lim_{x \to +\infty} f(x) = 0$

③

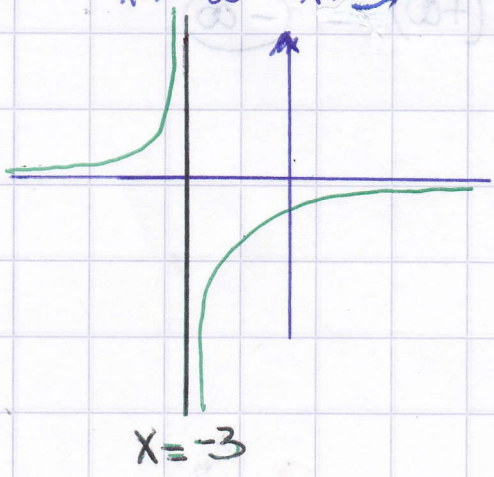
x	f(x)
-1,1	11
-1,01	101
-1,001	1001
-1,0001	1001
↓	↓
-1,1	$+\infty$

$\lim_{\substack{x \to -1 \\ <}} f(x) = +\infty$

x	f(x)
-0,9	-9
-0,99	-99
-0,999	-999
-0,9999	-9999
↓	↓
-1	$-\infty$

$\lim_{\substack{x \to -1 \\ >}} f(x) = -\infty$

④ a) $\lim_{x \to -\infty} \frac{-1}{x+3} = 0$

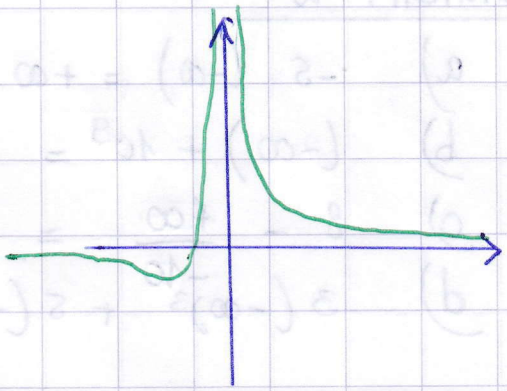


window

x-as: -10 tot 10

y-as: -10 tot 10

b) $\lim_{x \to 0} \frac{2x+1}{x^2} = +\infty$



(5) a) $\lim_{x \to -1} (2x^2 - 3x^3 + 6) = 2(-1)^2 - 3(-1)^3 + 6$

$= 2 + 3 + 6 = 11$

b) $\lim_{x \to +\infty} (2x^2 - 3x^3 + 6) = \lim_{x \to +\infty} (-3x^3) = (-3) \cdot +\infty = -\infty$

c) $\lim_{x \to -\infty} (2x^2 - 3x^3 + 6) = \lim_{x \to -\infty} (-3x^3) = -3 \cdot (-\infty) = +\infty$

d) $\lim_{x \to -\infty} (2x-3)(x^2 - x + 3) = \lim_{x \to -\infty} (2x^3) = 2 \cdot (-\infty)^3 = -\infty$

e) $\lim_{x \to 2} (2x-3)(x^2 - x + 3) = (4-3)(4-2+3) = 1 \cdot 5 = 5$

f) $\lim_{x \to 0} (2x+1)^5 \cdot (1-x)^4 = 1^5 \cdot 1^4 = 1$

g) $\lim_{x \to +\infty} (-5)(2x-1)^3 = \lim_{x \to +\infty} (-5) \cdot 8x^3 = \lim_{x \to +\infty} -40x^3$

$= -40 (+\infty)^3 = -\infty$