Exercise 1 (4 points)

Prove by using $\varepsilon$ and $\delta$ that $\lim_{x \to 2} \frac{1}{2} x + 3 = 2$

Exercise 2 (6 points)

Find the limit at $+\infty$ (and then the horizontal asymptotes) of the function $F(x) = \sqrt{9x^2 + x - 3x}$
Exercise 1 (6 points)

Find the limit at $+\infty$ (and then the horizontal asymptotes) of the function $F(x) = \frac{\sqrt{9x^6} - x}{x^3 + 1}$.

Exercise 2 (4 points)

Prove by using $\varepsilon$ and $\delta$ that $\lim_{x \to +\infty} \frac{1}{4}x + 3 = \frac{9}{2}$. 