COMPITO A 21/6/2012

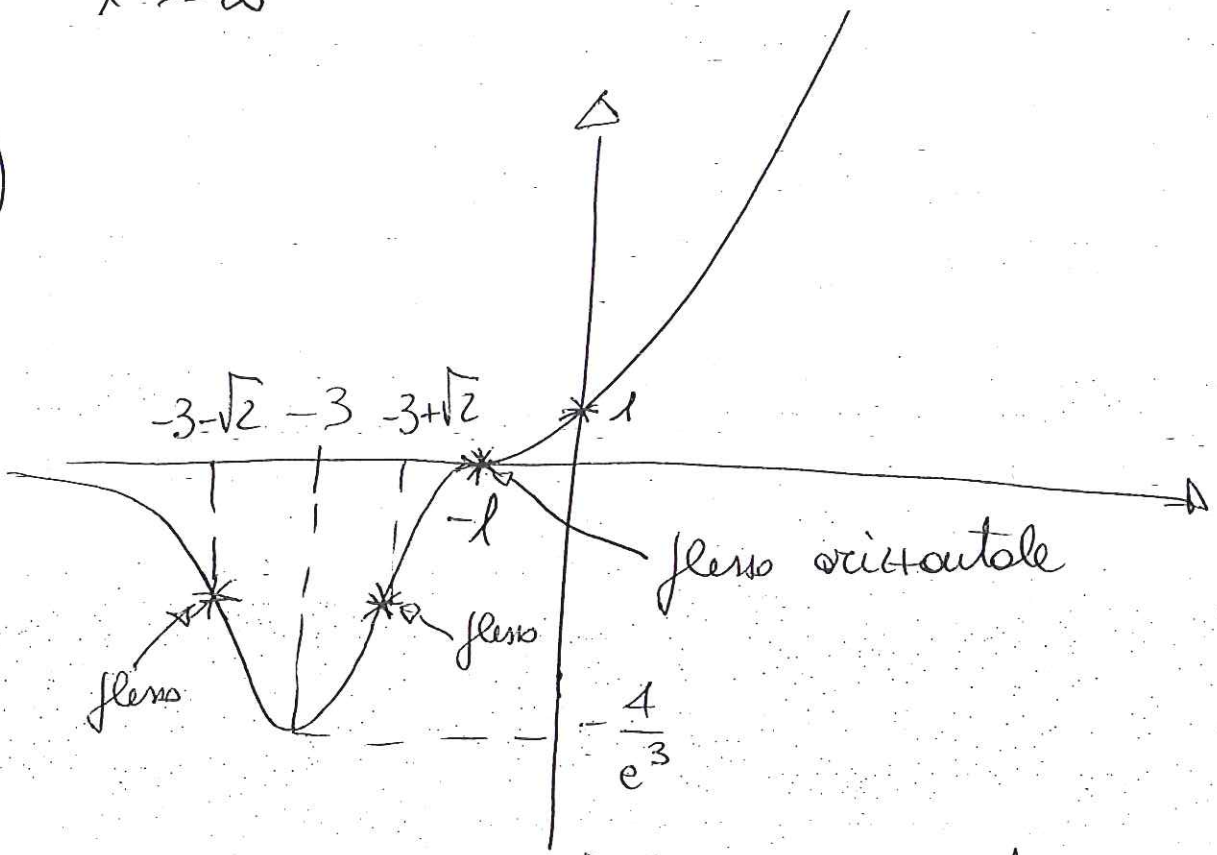
1) $z_1 = \frac{1}{2} - \frac{i}{2}$; $z_2 = -\frac{1}{4} - \frac{i}{4}$; $z_3 = 0$;

$z_4 = \frac{1}{5} - \frac{3}{5}i$.

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

$\lim_{x \to -\infty} f(x) = -\frac{3}{2}$

3)



4) $\sum a_n \approx \sum \frac{n\sqrt{n}}{n^3+1} \approx \sum \frac{1}{n^{3/2}}$ CONVERGENTE

5) $I_a = -\left[(a+2)^2 + 2(a+2) + 2\right] e^{-a} + 10$

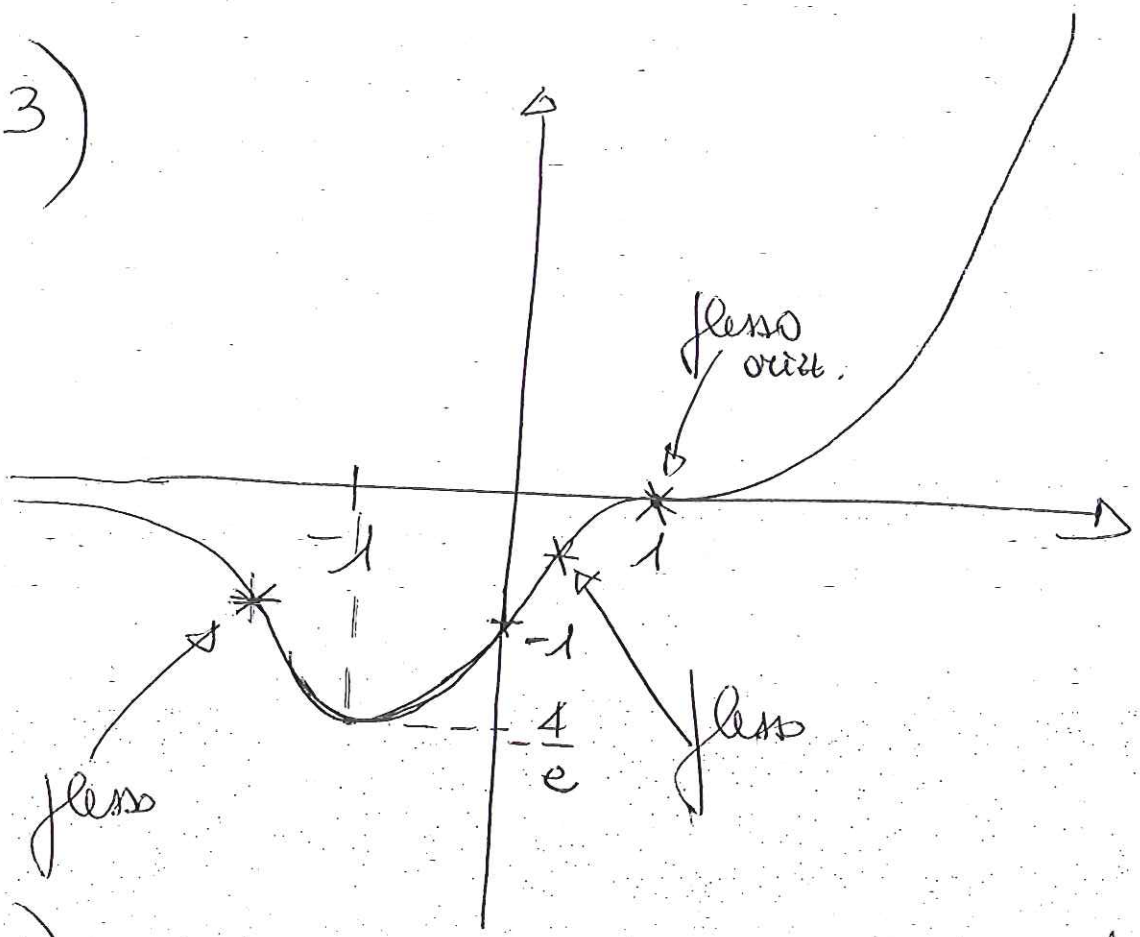
$\lim_{a \to +\infty} I_a = 10$.

COMPITO B 21/6/2012

1) $z_1 = \frac{1}{2} - i$; $z_2 = \frac{3}{2} - \frac{3}{2}i$; $z_3 = -\frac{1}{2} - \frac{1}{2}i$

2) $\lim_{x \to +\infty} f(x) = +\infty$; $\lim_{x \to -\infty} f(x) = \frac{1}{2}$

3)



4) $\sum a_n \approx \sum \frac{n}{2(n^4+1)} \cdot n \approx \frac{1}{2} \sum \frac{1}{n^2}$ CONVERGENTE

5) $I_a = -\left[\frac{1}{3}(a-1)^2 + \frac{2}{9}(a-1) + \frac{2}{27}\right] e^{-3a} + \frac{5}{27}$

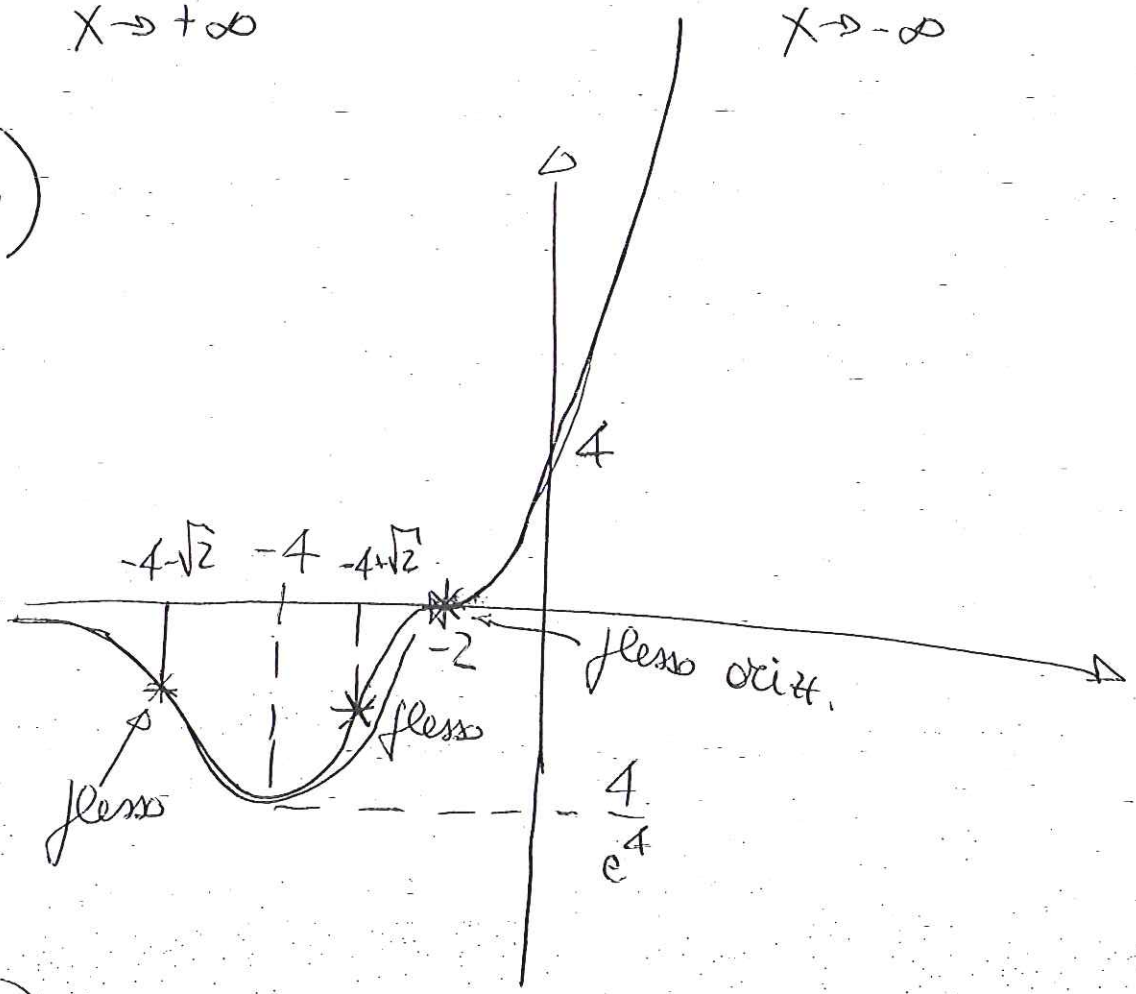
$$\lim_{a \to +\infty} I_a = \frac{5}{27}$$

COMPITO C 21/6/2012

1) $z_1 = -1+i$; $z_2 = 0$; $z_3 = -2+2i$.

2) $\lim_{x\to+\infty} f(x) = +\infty$; $\lim_{x\to-\infty} f(x) = +\infty$.

3)



4) $\sum a_n \approx \sum \frac{n\sqrt{n}}{n^4+1} \approx \sum \frac{1}{n^{5/2}}$ CONVERGENTE

5) $I_a = -\left[\frac{1}{2}(a+1)^2 + \frac{1}{2}(a+1) + \frac{1}{4}\right] e^{-2a} + \frac{5}{4}$

$$\lim_{a\to+\infty} I_a = \frac{5}{4}.$$