

# Lista 1 - Cálculo I

18 de agosto de 2023

## 1 Resolva as inequações

- a)  $x - 3 > 0$                       c)  $(x + 1)(x + 3) \geq 0$                       e)  $\sin(x) > 0$   
b)  $2x + 2 \leq x + 1$                       d)  $-x^2 + 3x + 4 \leq 4$                       f)  $\cos(x) < \frac{1}{2}$

## 2 Calcule

- a)  $|-3|$                                       c)  $x|x|$                                       e)  $|x^2 - x|$   
b)  $|x|$                                       d)  $|x - 1|$                                       f)  $|x + 2| + |x - 1|$

## 3 Resolva as equações

- a)  $|x| = 4$                                       c)  $|2x - 3| = |7x - 5|$                                       e)  $\left| \frac{3x+8}{2x-3} \right| = 4$   
b)  $|5x - 3| = 12$                                       d)  $\left| \frac{x+2}{x-2} \right| = 5$                                       f)  $|\sin(x)| = \frac{\sqrt{2}}{2}$

## 4 Resolva as inequações modulares

- a)  $|2x - 1| > x$                                       c)  $|x + 4| \leq |2x - 6|$                                       e)  $|x^2 - 5x + 2| < 2$   
b)  $|x - 1| + |x - 2| \geq 3$                                       d)  $\left| \frac{7-2x}{5+3x} \right| \leq \frac{1}{2}$                                       f)  $|x^2 + x + 1| \geq 1$

## 5 Desenhe o Gráfico

- a)  $f(x) = x^2 - 6x + 5$                                       c)  $f(x) = x^2 - 6|x| + 5$   
b)  $f(x) = |x^2 - 6x + 5|$                                       d)  $f(x) = |x^2 - 6|x| + 5|$