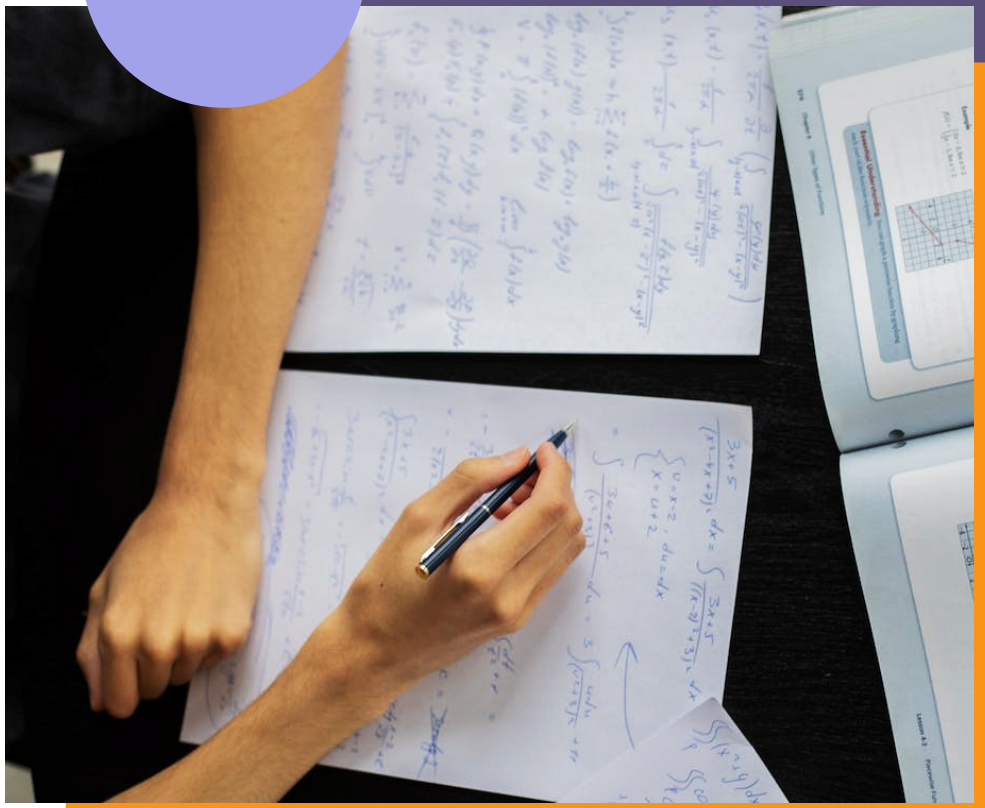
Fundamentos de Cálculo Aplicado

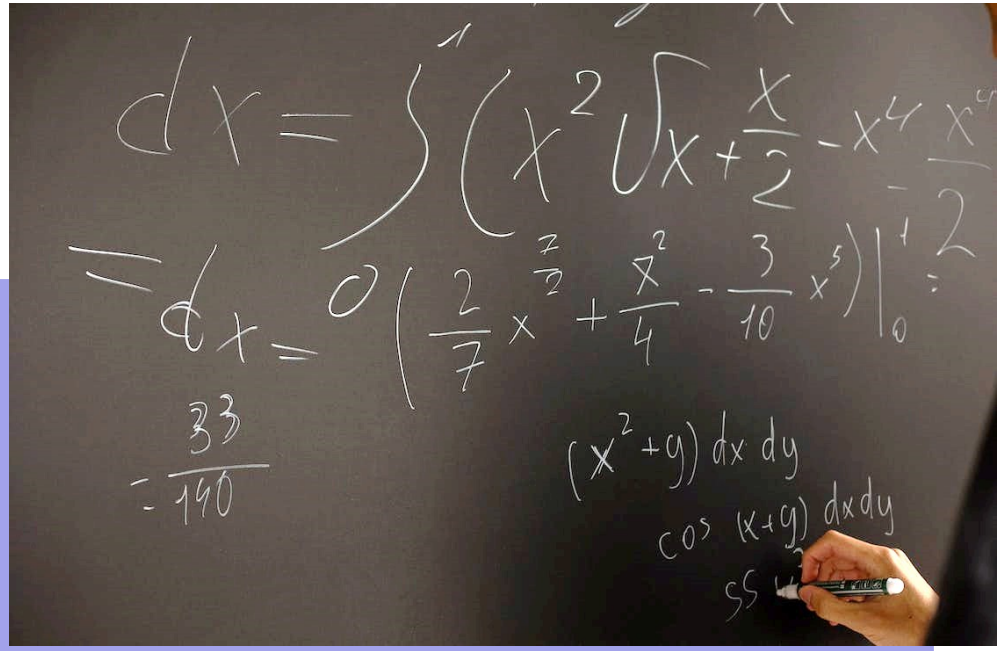
Fundamentos gerais sobre funções



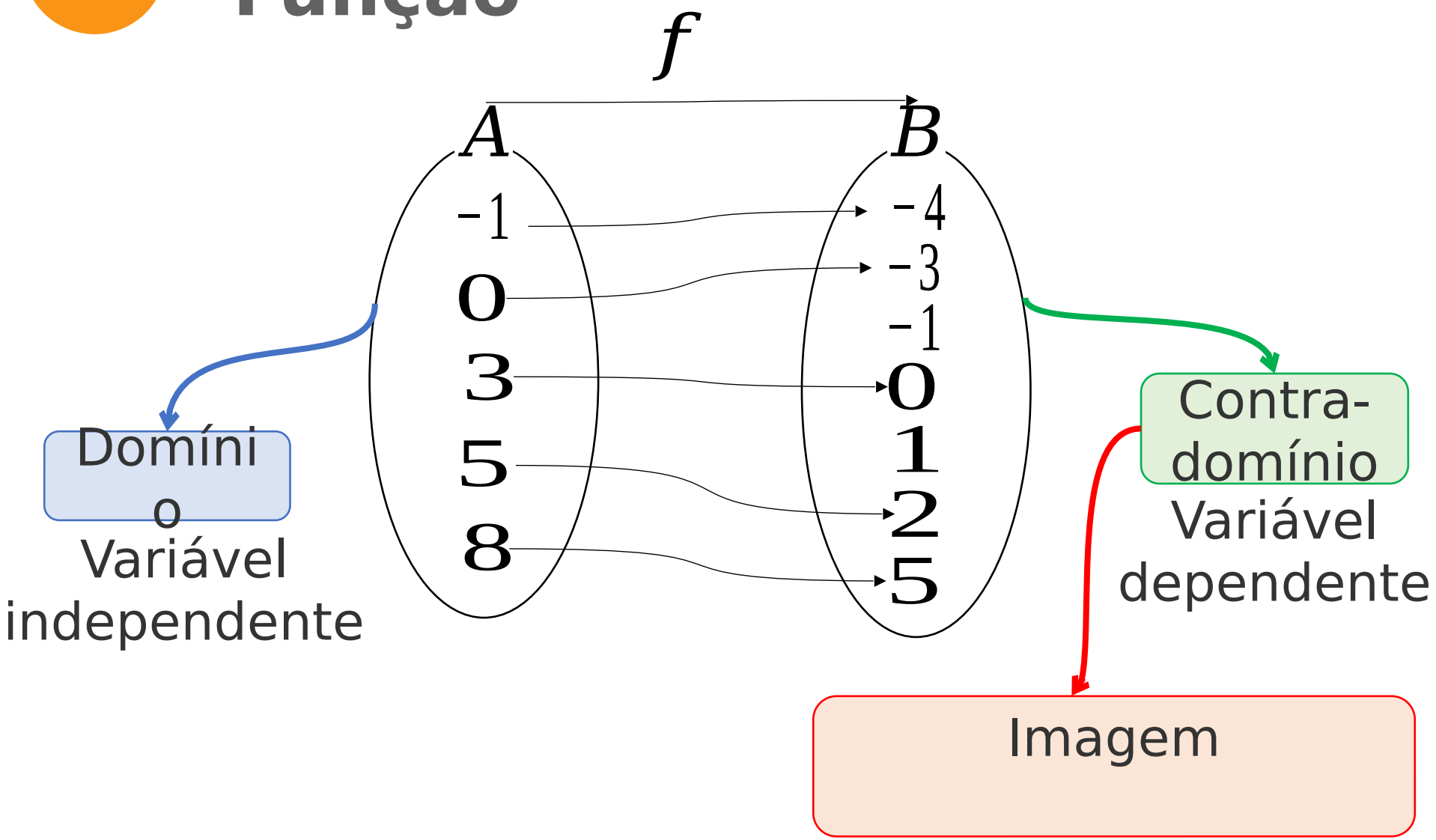
Profa. Ma. Alessandra Negrini

01

Funções afim e quadrática

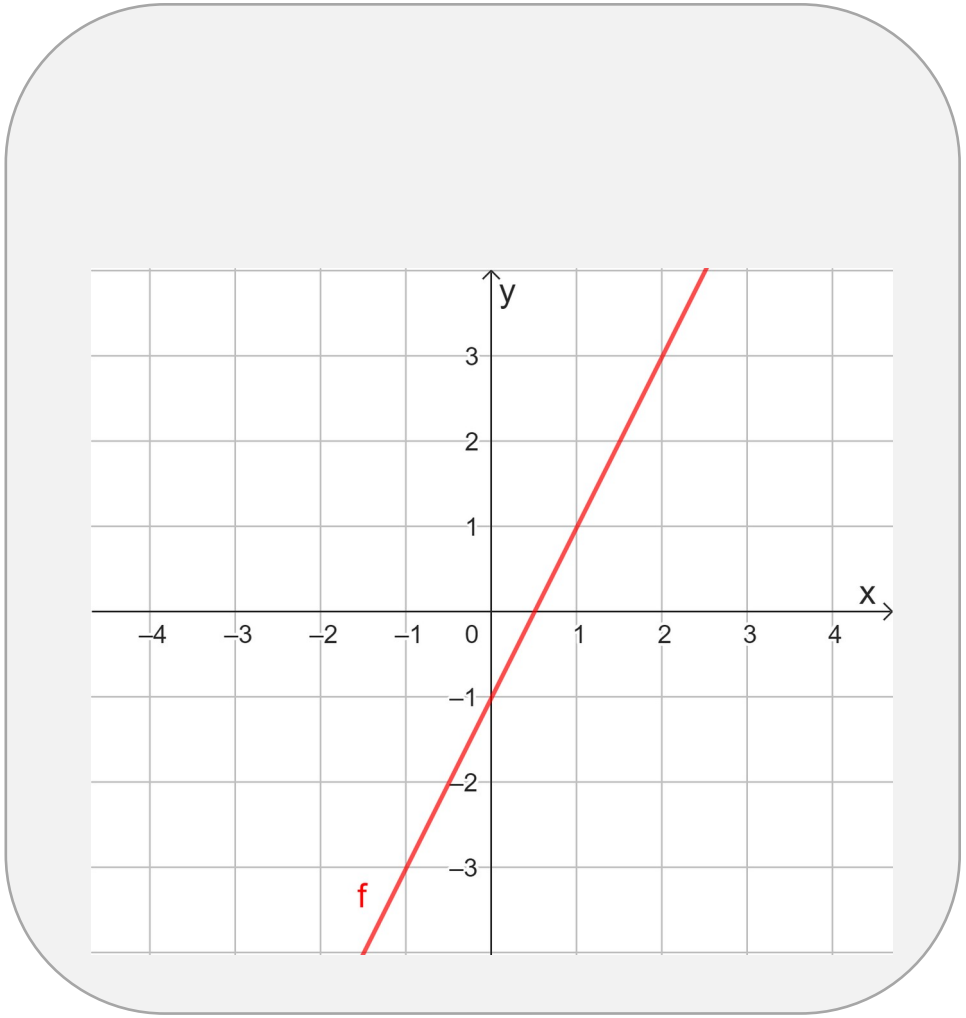


Função


f
A
B
-1
0
3
5
8
-4
-3
-1
0
1
2
5
Domínio
Variável independente
Contra-domínio
Variável dependente
Imagem

Função afim

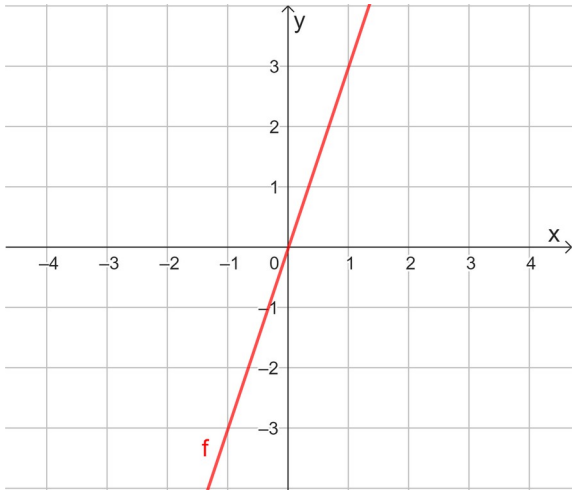
- Coeficientes: e
- Gráfico: reta
- Zero ou raiz: para o qual



Casos particulares

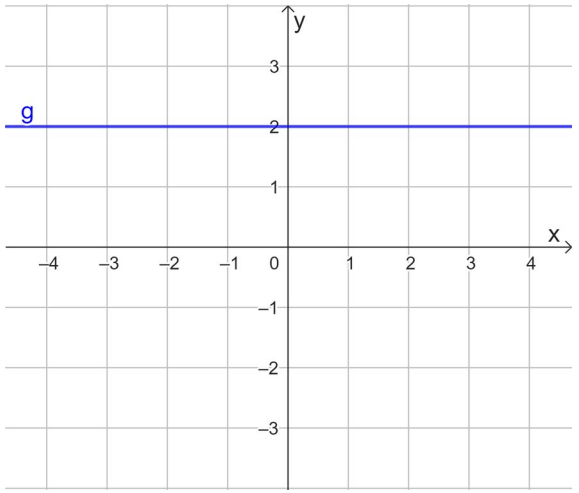
Função linear

$$f(x) = ax$$



Função constante

$$f(x) = b$$



Exemplo: plano de saúde

- Mensalidades:

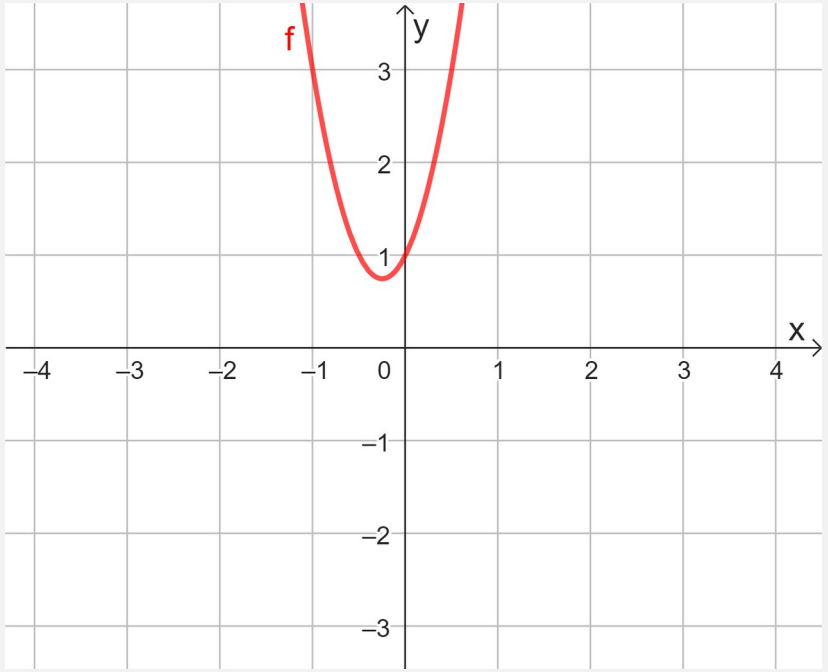
A taxa fixa de R$ 150,00, e R$ 60,00 por consulta

B taxa fixa de R$ 290,00, e R$ 32,00 por consulta

Qual plano compensa mais e em quais condições?

Função quadrática

$$f : \mathbb{R} \to \mathbb{R}$$

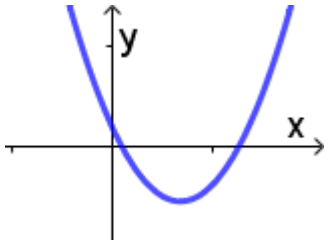
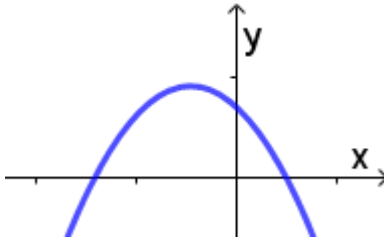
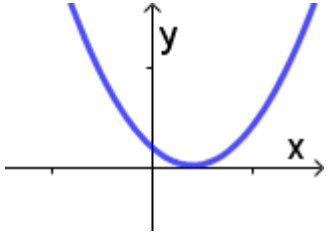
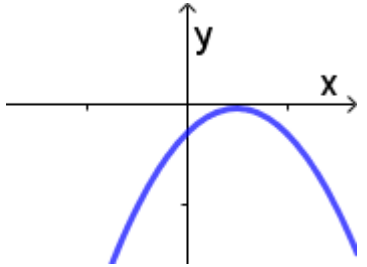
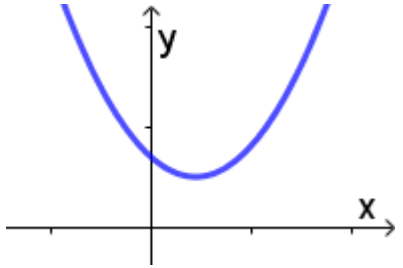
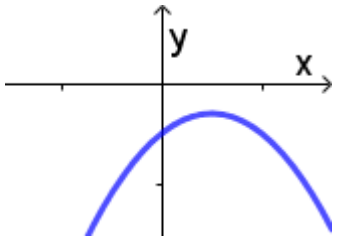


- Coeficientes: , e
- Gráfico: parábola

Discriminante:

Raízes ou zeros:

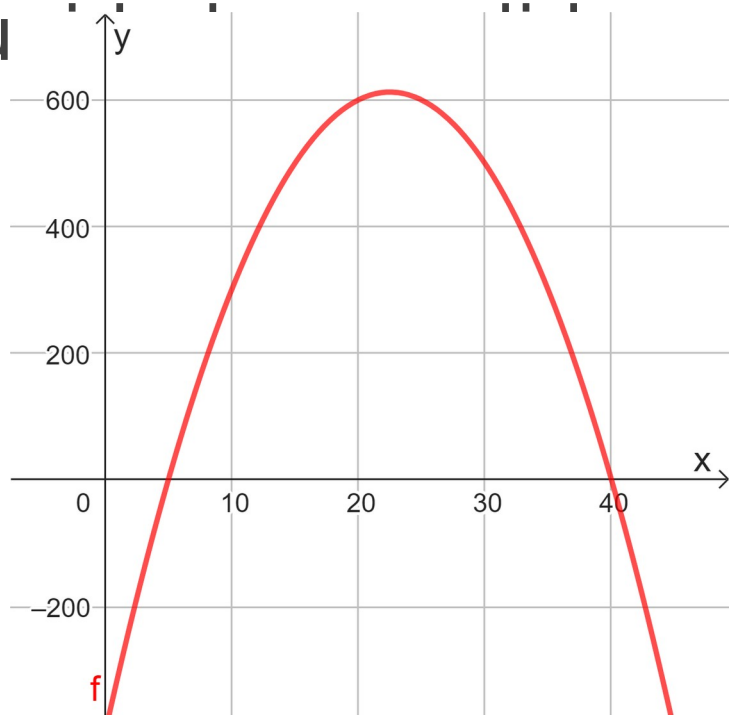
Vértice:

Discriminante		
		
		
		

Exemplo: função lucro

A função lucro associada a um produto é dada por:

com a quantidade de u
Qual o lucro máximo?



$$L(x) = -2x^2 + 90x - 400$$