CM300 - Introdução ao Cálculo
Lista de Exercícios 4

1. Esboce o gráfico das funções do primeiro grau abaixo.

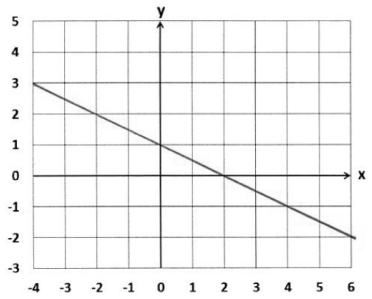
   (a) $f(x) = 3x + 2$. (b) $g(x) = \frac{x}{2} - 1$. (c) $h(x) = -\frac{x}{3} + 2$. (d) $w(x) = -x$.

2. Encontre a função do primeiro grau que passa pelos pontos indicados.

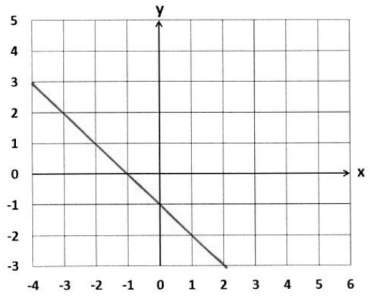
   (a) $(6, 3)$ e $(-3, -3)$ (b) $(2, -3)$ e $(1/2, 0)$ (c) $(2, 0)$ e $(-2, 1)$

3. Encontre as funções do primeiro grau cujos gráficos estão representados abaixo.

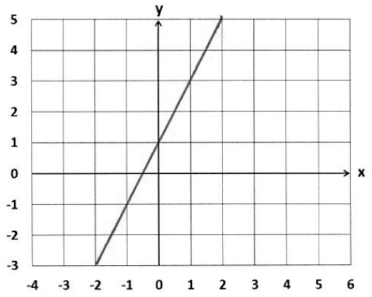
(a)



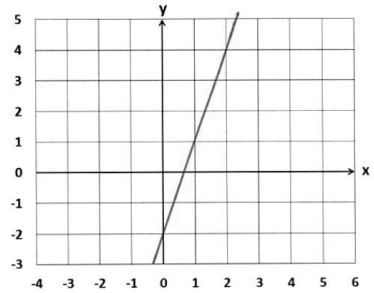
(c)



(b)



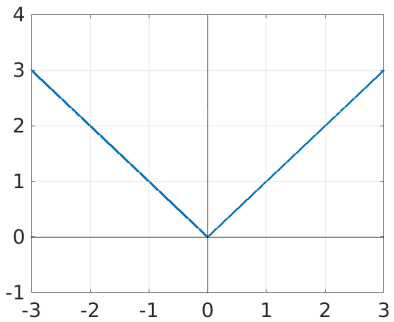
(d)



4. Indique as coordenadas do vértice e esboce os gráficos das funções a seguir:

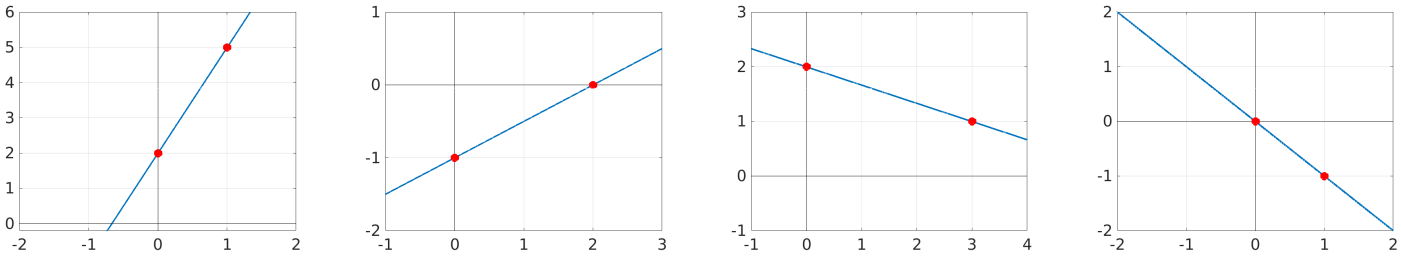
   (a) $f(x) = x^2 - 3$ (b) $f(x) = x^2 - x$ (c) $f(x) = x^2 - x - 2$ (d) $f(x) = x^2 + 4x + 5$

5. Dado o gráfico abaixo da função modular $f(x) = |x|$, faça os gráficos das funções $g(x) = |x - 1|$, $h(x) = |x + 1|$ e $k(x) = |x| + 1$.



Respostas:

1. (a) (b) (c) (d)

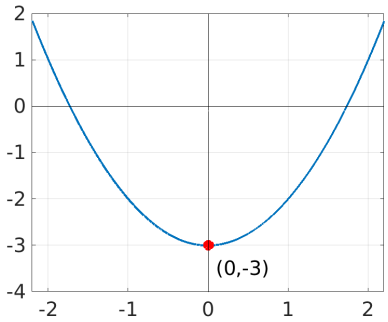


2. (a) $f(x) = \dfrac{2x}{3} - 1$ (b) $f(x) = -2x + 1$ (c) $f(x) = -\dfrac{x}{4} + \dfrac{1}{2}$

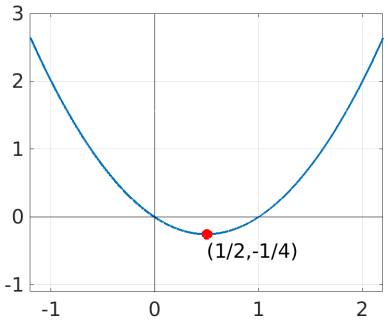
3. (a) $f(x) = -\dfrac{x}{2} + 1$. (b) $f(x) = 2x + 1$. (c) $f(x) = -x - 1$. (d) $f(x) = 3x - 2$.

4.

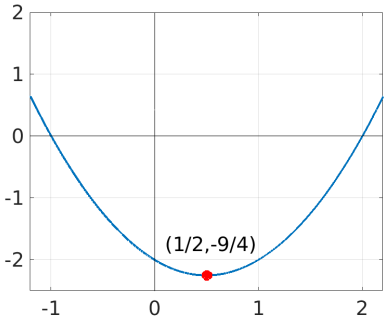
(a)



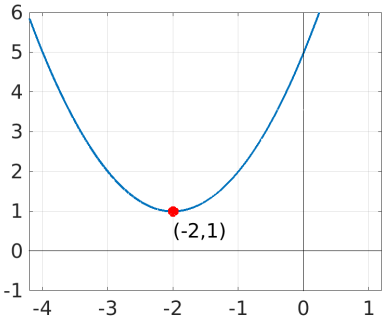
(b)



(c)



(d)



5. $g(x)$ $h(x)$ $k(x)$