UDESC
UNIVERSIDADE DO ESTADO DE SANTA CATARINA

3ª. Lista de Exercícios: Funções Trigonométricas

Curso Superior: Bacharelado em Ciência da Computação	**Data: 06/07/2022**
Disciplina: Introdução ao Cálculo Diferencial e Integral	
Professor: Dani Prestini	

1) Esboce o gráfico das funções trigonométricas, e determine o período (T), amplitude (A), domínio e imagem das funções:

a) $y = 2 + \sin x$ $T = 2\pi$ $A = 1$ $D(f) = \mathbb{R}$ $Im(f) = [1,3]$

b) $y = 2\sin 4x$ $T = \frac{\pi}{2}$ $A = 2$ $D(f) = \mathbb{R}$ $Im(f) = [-2,2]$

c) $y = -3\cos(0{,}5x)$ $T = 4\pi$ $A = 3$ $D(f) = \mathbb{R}$ $Im(f) = [-3,3]$

d) $y = 3\sin 2\pi x$ $T = 1$ $A = 3$ $D(f) = \mathbb{R}$ $Im(f) = [-3,3]$

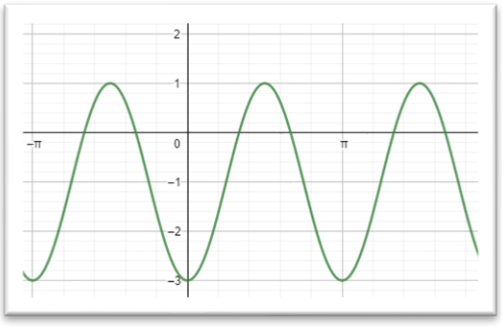
e) $y = 3\cos\left(2x + \frac{\pi}{2}\right)$ $T = \pi$ $A = 3$ $D(f) = \mathbb{R}$ $Im(f) = [-3,3]$

a) $y = \tan(2x) + 1$ $T = \frac{\pi}{2}$ $D(f) = \left\{x \in \mathbb{R} \middle| x \neq \frac{\pi}{4} + \frac{k\pi}{2}; k \in \mathbb{Z}\right\}$ $Im(f) = \mathbb{R}$

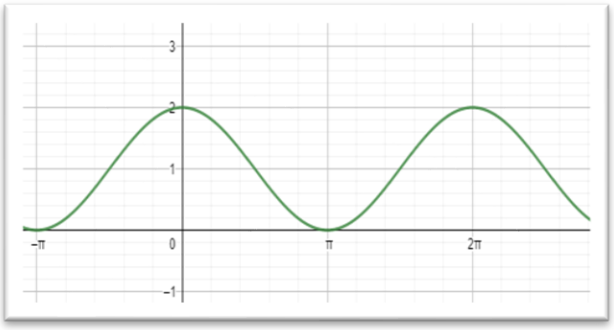
b) $y = 2\tan(3x)$ $T = \frac{\pi}{3}$ $D(f) = \left\{x \in R \middle| x \neq \frac{\pi}{6} + \frac{k\pi}{3}; k \in \mathbb{Z}\right\}$ $Im(f) = \mathbb{R}$

2) Analise os gráficos e encontre a função trigonométrica que melhor represente:

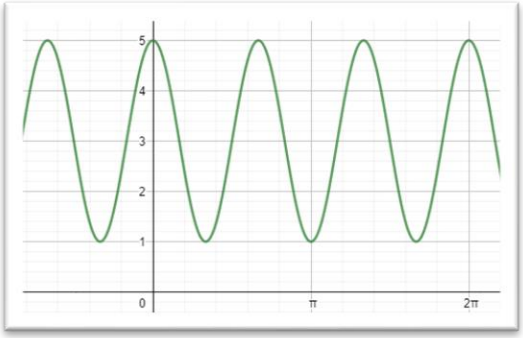
a)



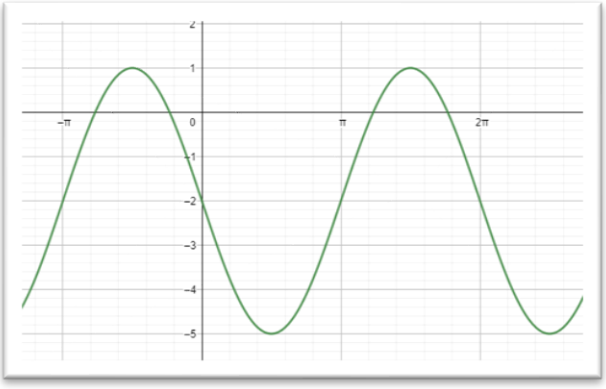
b)



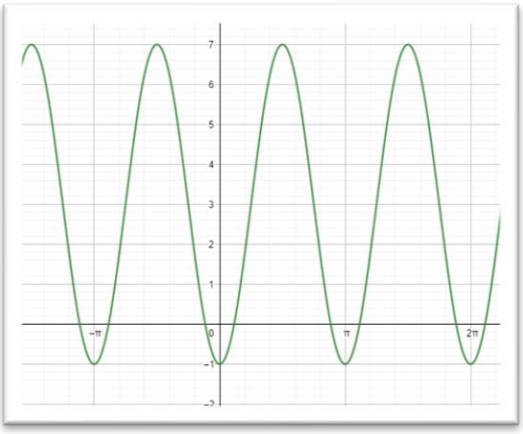
c)



d)



e)



f)