a)

$f'(x) = 0$ at all $\frac{\pi x}{2}$ such that $x = \ldots, -2, -1, 0, 1, 2, \ldots$

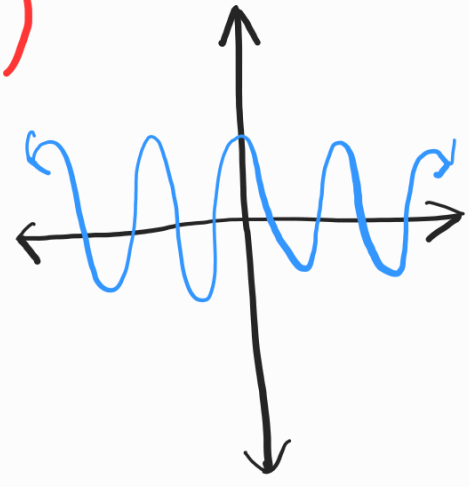
b)

$|f'(x)|$ is largest at all πx such that $x = \ldots, -2, -1, 0, 1, 2, .$

c)

alternates between positive and negative

d)



$$\frac{d}{dx} \sin(x) = \cos(x)$$