

-V

$$y = ax + b \rightarrow r = \sqrt{a^2 + b^2} \Rightarrow a = r \cos \theta, b = r \sin \theta \Rightarrow \tan \theta = \frac{b}{a}$$

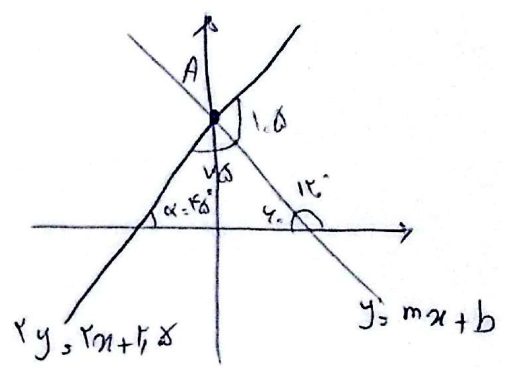
$$\Rightarrow \cos \theta = \frac{a}{r} = \frac{a}{\sqrt{a^2 + b^2}}$$

-A

$$\tan \theta = \frac{b}{a} = \frac{1}{\sqrt{3}} \Rightarrow \theta = 30^\circ$$

$$r = \frac{b}{\sin \theta} = \frac{1}{\sin 30^\circ} = 2$$

$$\Rightarrow y = 2 \sin(\theta + 30^\circ)$$



-9

$$f(x) = -\cos(x) + \cos(x) - (-\cot(x)) = \cot(x)$$

$$\Rightarrow f\left(\frac{\omega x}{4}\right) = \cot\left(\frac{\omega x}{4}\right) = 0 \Rightarrow \frac{\omega x}{4} = 180^\circ \Rightarrow \cot 180^\circ = 0$$

-10

$$\frac{\sin\left(\frac{13\pi}{4} + x\right) + \cos\left(\frac{13\pi}{4} - x\right)}{\cos\left(\frac{13\pi}{4} + x\right) - \sin\left(\frac{13\pi}{4} - x\right)} = \frac{\sin\left(\frac{3\pi}{4} + x\right) + \cos\left(\frac{3\pi}{4} - x\right)}{\cos\left(\frac{3\pi}{4} + x\right) - \sin\left(\frac{3\pi}{4} - x\right)} = \frac{\cos(x) - \sin(x)}{-\cos(x) - (-\sin(x))} = -1$$