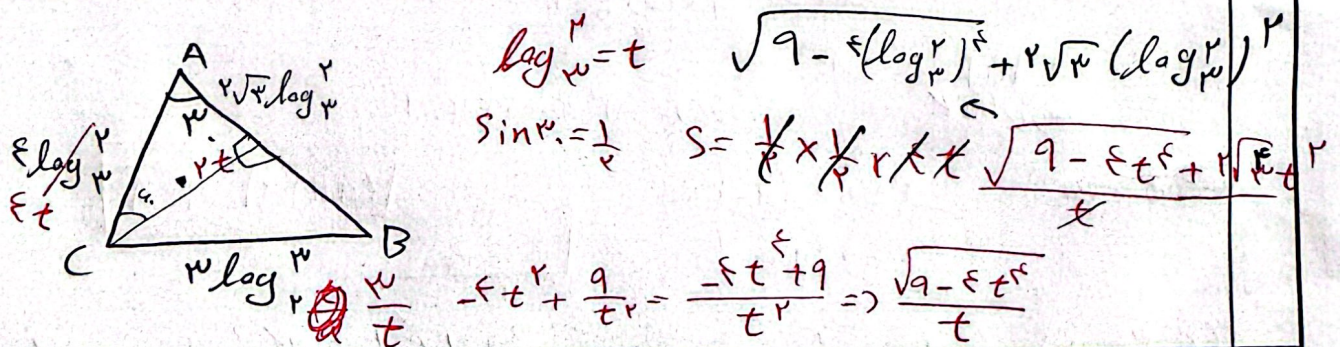
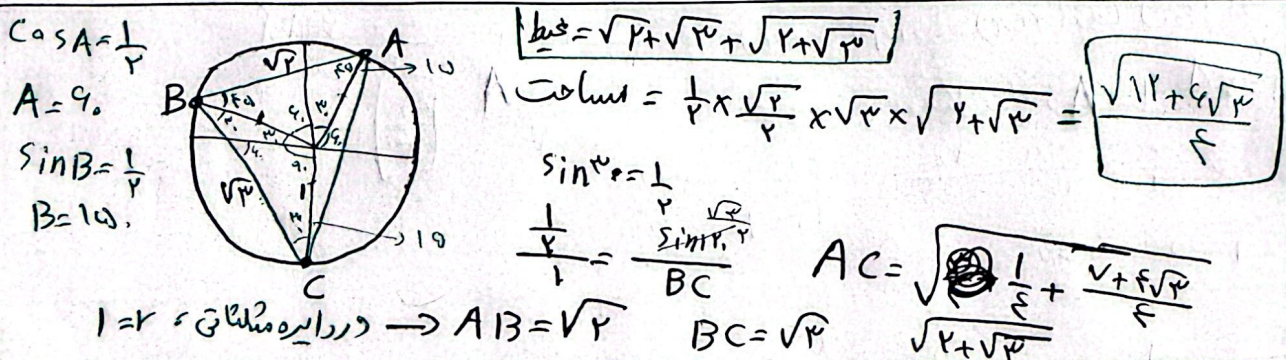
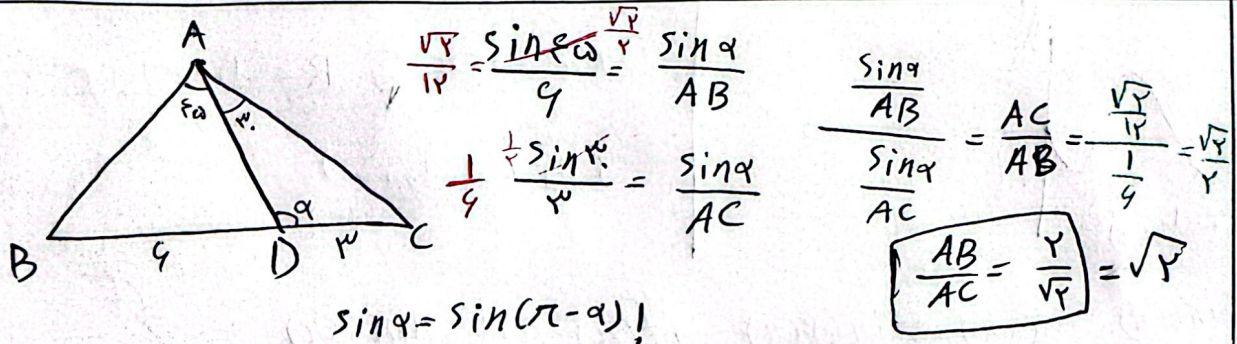
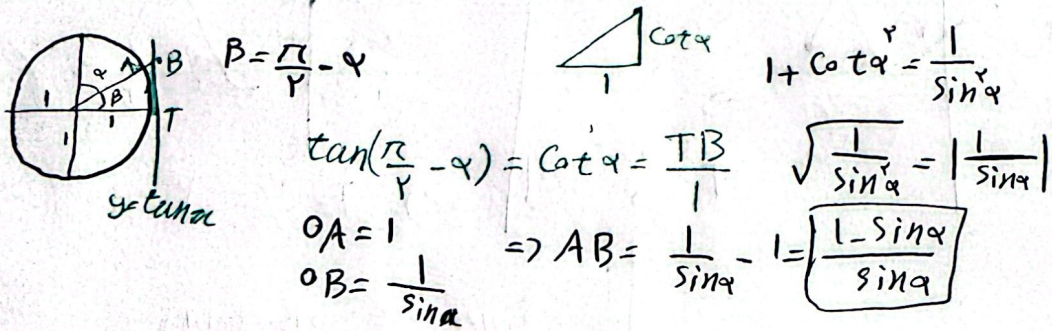
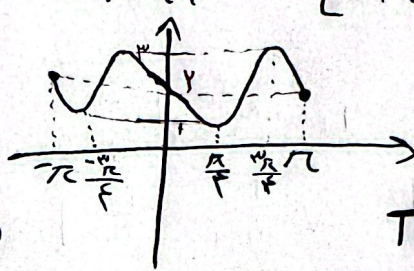
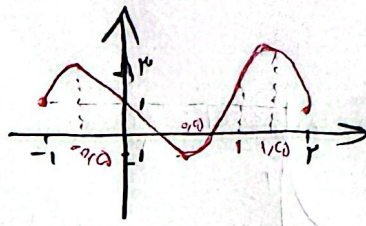
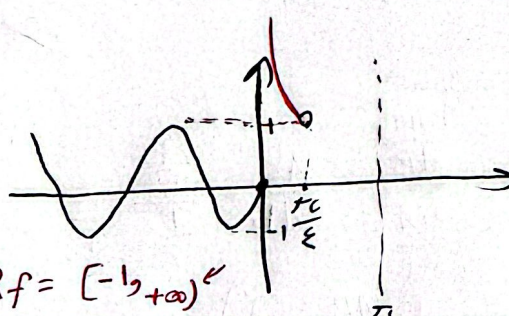
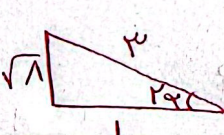
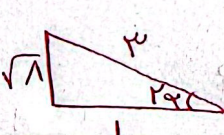
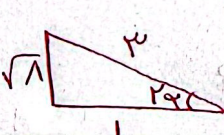




$f(\cos \alpha) = y \cos^2 \alpha - \cos^2 \alpha - \sin^2 \alpha (y \sin^2 \alpha - 1)$
 $\cos^2 \alpha (y \cos^2 \alpha - 1) + \sin^2 \alpha (y \sin^2 \alpha - 1) = \cos^2 \alpha$
 $\cos^2 \alpha (y \cos^2 \alpha - 1) + \sin^2 \alpha (y \sin^2 \alpha - 1) = \cos^2 \alpha$
 $\cos^2 \alpha (1) = 1$
 $\cos^2 \alpha = 1$
 $\sin^2 \alpha + \cos^2 \alpha = 1 \Rightarrow \sin^2 \alpha = 0$

$-y \sin x \cos x = -\sin 2x$ $f(x) = -\sin 2x + y \quad [-\pi, \pi]$  فد $T = \frac{2\pi}{y} = \pi$	$y \cos(\pi x + \frac{\pi}{2}) + 1 = -y \sin(\pi x) + 1$  $T = \frac{2\pi}{\pi} = 2$	6
 $R_f = [-1, +\infty)$	$\sin x \quad x \leq 0 \rightarrow R = [-1] \quad I$ $\cos x \quad 0 < x < \frac{\pi}{2} \quad R = (1, +\infty) \quad II$ $I \cup II = [-1, +\infty)$	7
$\sin(cx) \cos(cx) = \frac{1}{2} \sin(2cx) \rightarrow f(x) = a + \frac{b}{c} \sin(cx)$ $\frac{1}{2} \sin(2cx) \cos(2cx) = \frac{1}{4} \sin(4cx) \quad \frac{0+c}{y} = \frac{y}{a} \quad \frac{c-0}{y} = \frac{y}{ b c}$ $a = y \quad b = 1 \rightarrow b = 1 \quad \text{بازجه به } c \text{ و شکل خود دارد}$ $T = \frac{\pi}{y} - \frac{\pi}{1} = \frac{\pi}{y} - \pi = \frac{2\pi}{y} \quad \frac{2\pi}{ fc } = \frac{2\pi}{y}$ $ fc = y \quad (y > 0) \Rightarrow c = \frac{y}{2}$	$\frac{y-c}{y} = -1 = c \quad \frac{2\pi}{ b } = \pi \quad b = 2 \Rightarrow b = 2$ $\frac{y-c-c}{y} = y = a \Rightarrow a = -y$ $f(x) = -y \cos 2x - 1$ $-y \cos 2x - 1 = 0 \quad \cos 2x = -\frac{1}{y}$  $\tan 2x = \sqrt{y^2 - 1}$	8
$\frac{y-c}{y} = -1 = c \quad \frac{2\pi}{ b } = \pi \quad b = 2 \Rightarrow b = 2$ $\frac{y-c-c}{y} = y = a \Rightarrow a = -y$ $f(x) = -y \cos 2x - 1$ $-y \cos 2x - 1 = 0 \quad \cos 2x = -\frac{1}{y}$  $\tan 2x = \sqrt{y^2 - 1}$	$\frac{y-c}{y} = -1 = c \quad \frac{2\pi}{ b } = \pi \quad b = 2 \Rightarrow b = 2$ $\frac{y-c-c}{y} = y = a \Rightarrow a = -y$ $f(x) = -y \cos 2x - 1$ $-y \cos 2x - 1 = 0 \quad \cos 2x = -\frac{1}{y}$  $\tan 2x = \sqrt{y^2 - 1}$	9
$f(-3/4, a) = f(-1/a) = f(1/a)$ $f(1/a - 1/2T)$ تداوب $y = 1 - \frac{2x}{y}$ $f(\frac{y}{4}) = 1 - \frac{y}{y} = \frac{1}{4}$	در هر دوره تناوب شکل خود را تکرار میکند $f(\frac{y}{4}) = 1 - \frac{y}{y} = \frac{1}{4}$	10