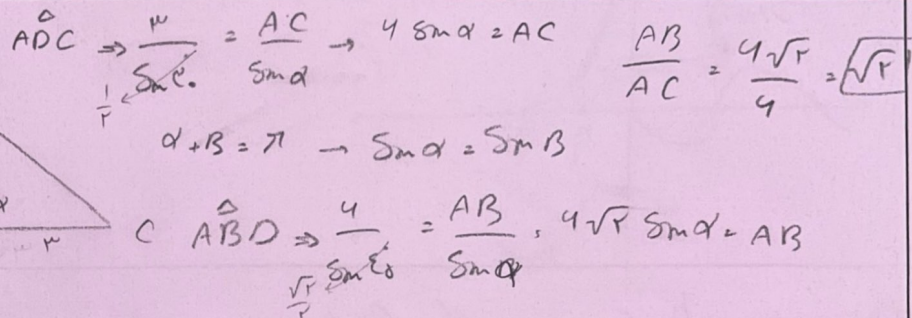
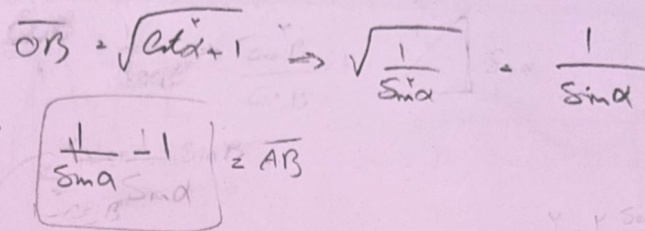
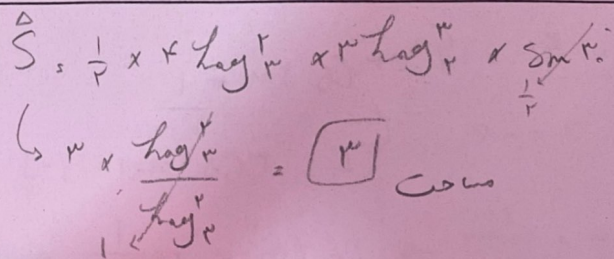


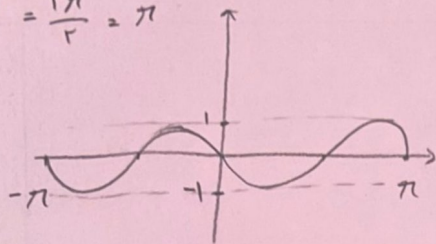
$$3 \times 2 = \boxed{4} \quad \text{ب. 4}$$



$$\Rightarrow \cos^2 \alpha (\cos^2 \alpha + \sin^2 \alpha) = 1 \quad \cos^2 \alpha = 1 \quad \boxed{\sin^2 \alpha = 0} \quad \text{— 100}$$

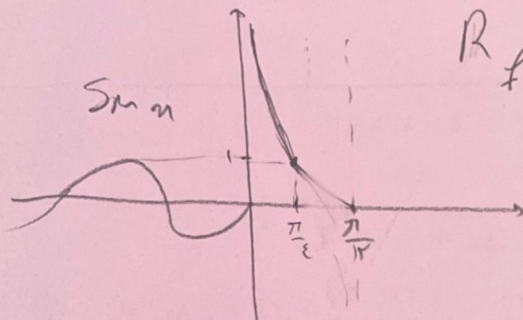
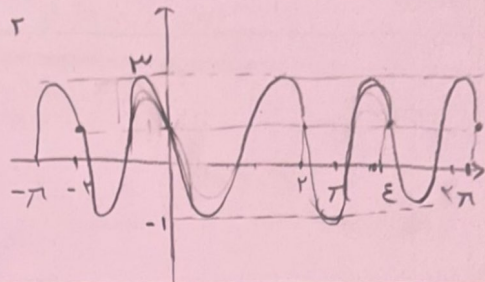
Case 1) $y = \sin^2 x$

$T = \frac{2\pi}{\omega} = \pi$



Case 2) $y = \cos(\frac{\pi}{2} + \pi n) + 1 \rightarrow -\sin \pi n + 1$

$T = \frac{2\pi}{\pi} = 2$



$R_f \in [-1, +\infty)$

$f(n) = a + \frac{b}{r} \sin(rn) + \cos(rn)$

$\rightarrow a + \frac{b}{r} \sin(rn) \quad T = \frac{2\pi}{\omega} = \frac{2\pi}{rc} \Rightarrow rc = a \Rightarrow c = \frac{a}{r}$

$a + \frac{b}{r} = r$

$a - \frac{b}{r} = 0 \Rightarrow ra = b \rightarrow a = r \quad \frac{bc}{a} \Rightarrow \frac{1 \times \frac{a}{r}}{r} = \boxed{\omega}$

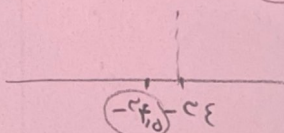
$-a + c = r \quad f(n) = a \cos bn + c \quad T = \pi = \frac{2\pi}{\omega}$

$a + c = -r \quad \hookrightarrow -\cos \pi n + 1$

$c = -1 \quad a = -r \quad \hookrightarrow 0 = -r \cos \pi n - 1 \rightarrow -\frac{1}{r} = \cos \pi n$

$1 + \tan^2 \pi n = \frac{1}{\cos^2 \pi n} \rightarrow 1 + \tan^2 \pi n = \frac{1}{\frac{1}{r^2}} \Rightarrow \tan^2 \pi n = r^2 \Rightarrow |\tan \pi n| = r$

$-1 - (r \times 1) = -r \Rightarrow -r = -r$



$-\frac{1}{r} \pi + 1 = \frac{1}{r}$

$f(1,0) = f(-r, \pi) = \boxed{\frac{1}{r}}$