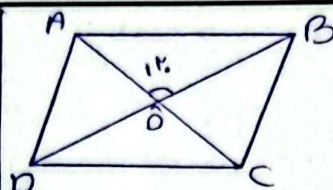


(الف)

$$P\left(\frac{1}{2} \times AB \times AC \times \sin A\right) \\ = P\left(\frac{1}{2} \times 4 \times 3 \times \sin 120^\circ\right) = \underline{4\sqrt{3}}$$

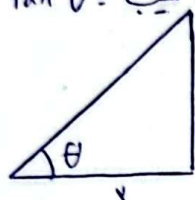


$$AC=3 \\ BD=4$$

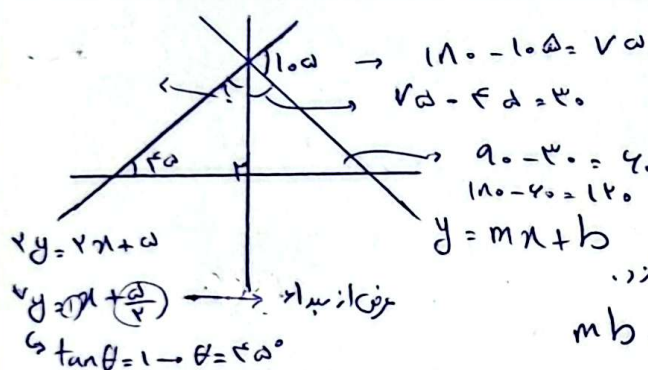
(ب)

$$S_{ABCO} = \frac{1}{2} \times AC \times BD \times \sin \theta \\ = \frac{1}{2} \times 3 \times 4 \times \sin 60^\circ = \underline{3\sqrt{3}}$$

$$\tan \theta = \frac{y}{x} = \frac{\Delta y}{\Delta x} = \frac{f-1}{3-(-1)} = \frac{1}{4}$$



$$r = \sqrt{1^2 + 4^2} = \sqrt{17} \rightarrow \cos \theta = \frac{4}{\sqrt{17}} = \underline{\frac{4\sqrt{17}}{17}}$$



د خط های یک عرض از برابر یک است $b = \frac{a}{4}$

$$\left. \begin{aligned} 120 - 120 &= 120 \\ 120 - 120 &= 120 \end{aligned} \right\} m = \tan 120^\circ = -\sqrt{3}$$

$$mb = \frac{a}{4} \times -\sqrt{3} = \underline{\frac{-a\sqrt{3}}{4}}$$

$$\left. \begin{aligned} \cos(x+\pi) &= -\cos x \\ \sin\left(\frac{x}{4} - \pi\right) &= -\sin x \\ \tan\left(\frac{3x}{4} + \pi\right) &= \tan x \end{aligned} \right\} \rightarrow f(x) = -\cos x + \cos x + \cot x \Rightarrow f(x) = \cot x$$

$$\cos \rightarrow \cot\left(\frac{a\pi}{4}\right) = \cot(120^\circ) = \underline{-\frac{1}{\sqrt{3}}}$$

$$\left. \begin{aligned} \sin\left(\frac{17\pi}{4} + x\right) &= \cos x \\ \cos\left(\frac{13\pi}{4} - x\right) &= -\sin x \\ \cos(3\pi + x) &= -\cos x \\ \sin(4\pi - x) &= -\sin x \end{aligned} \right\}$$

$$\frac{\cos x + (-\sin x)}{-\cos x - (-\sin x)} = \frac{\cos x - \sin x}{-\cos x + \sin x} = \underline{-1}$$