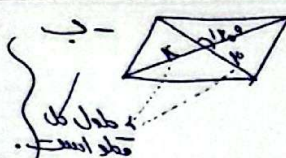




* $S_{\square} = ab \sin \alpha$

$(4 \times 5 \times \sin 110^\circ = 4 \times 5 \times \frac{\sqrt{3}}{2}) = 10\sqrt{3}$

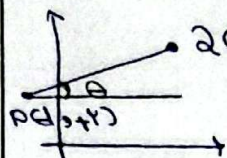


* $S_{\square} = \frac{1}{2} ab \sin \alpha$

$= \frac{1}{2} \times 4 \times 5 \times \sin \alpha$

$= \frac{1}{2} \times 4 \times 5 \times \frac{\sqrt{3}}{2} = 10\sqrt{3}$

6



$2(4, 1) \cos \theta = ?$

$\tan \theta = a = \frac{y_2 - y_1}{x_2 - x_1} = \frac{1 - 0}{4 - 0} = \frac{1}{4} = \frac{1}{4}$

$\tan^2 \theta + 1 = \frac{1}{\cos^2 \theta}$

$\frac{1}{16} + 1 = \frac{1}{\cos^2 \theta}$

$\frac{17}{16} = \frac{1}{\cos^2 \theta}$

$\cos^2 \theta = \frac{16}{17}$

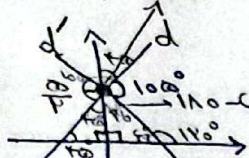
$\cos \theta = \frac{4 \times \sqrt{17}}{17}$

$= \frac{4\sqrt{17}}{17}$

7

$\tan \alpha = \frac{b}{a} = ?$

$b = \frac{a}{\tan \alpha} = \frac{1}{\tan \alpha} = \frac{1}{1} = 1$



$d b \alpha \rightarrow a = \tan \alpha = 1 \rightarrow \alpha = 45^\circ$

$\alpha = \tan 140^\circ = -0.75$

$y = x + \frac{a}{\tan \alpha}$

$y = x + \frac{1}{1} = x + 1$

$b = \frac{a}{\tan \alpha} = \frac{1}{-0.75} = -\frac{4}{3}$

$mb = \frac{-4 \times \sqrt{17}}{17}$

8

$f(x) = \cos(x + \frac{\pi}{4}) + \sin(\frac{\pi}{4} - x) - \tan(\frac{\pi}{4} + x)$

$f(\frac{\pi}{4}) = ?$

$(\cos(\frac{\pi}{4} + \frac{\pi}{4}) + \sin(\frac{\pi}{4} - \frac{\pi}{4}) - \tan(\frac{\pi}{4} + \frac{\pi}{4})) =$

$\frac{\sqrt{2}}{2} - \frac{\sqrt{2}}{2} - 1 = -1$

$\frac{\sin(\frac{\pi}{4} + x) + \cos(\frac{\pi}{4} - x)}{\cos(\frac{\pi}{4} + x) - \sin(\frac{\pi}{4} - x)} = \frac{\sin(\frac{\pi}{4} + x) + \cos(\frac{\pi}{4} - x)}{\cos(\frac{\pi}{4} + x) - \sin(\frac{\pi}{4} - x)}$

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

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

9

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