

2,21  
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$$x^2 + 2(2 - 5\sin\alpha)x + 9^2\alpha - 5\sin\alpha + 4 = 0$$

$$4(4 - 4\sin\alpha + \sin^2\alpha) - 4 \cdot 9^2\alpha + 20\sin\alpha - 16 > 0$$

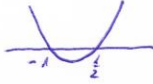
$$4\sin^2\alpha - 4 \cdot 9^2\alpha + 4\sin\alpha > 0$$

$$4\sin^2\alpha - 4(1 - \sin^2\alpha) + 4\sin\alpha > 0$$

$$8\sin^2\alpha + 4\sin\alpha - 4 > 0 \quad /:4$$

$$2\sin^2\alpha + \sin\alpha - 1 > 0$$

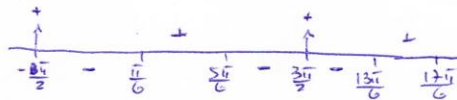
$$\begin{cases} \sin\alpha = -1 \\ \sin\alpha = \frac{1}{2} \end{cases}$$



$$\alpha = -\frac{3\pi}{2} + 2\pi k$$

$$\alpha = \frac{\pi}{6} + 2\pi k$$

$$\alpha = \frac{5\pi}{6} + 2\pi k$$



$$\boxed{-\frac{3\pi}{2} + 2\pi k < x < \frac{\pi}{6} + 2\pi k \quad \text{or} \quad \frac{5\pi}{6} + 2\pi k < x < \frac{17\pi}{6} + 2\pi k}$$

פסיור

$$\frac{9}{4} = 9^2\alpha - 5\sin\alpha + 4$$

$$9 = 4(1 - \sin^2\alpha) - 20\sin\alpha + 16$$

$$4\sin^2\alpha + 20\sin\alpha - 11 = 0$$

$$\sin\alpha = -5.5 \rightarrow \text{no}$$

$$\sin\alpha = \frac{1}{2} \rightarrow$$

$$\boxed{\begin{aligned} \alpha &= \frac{\pi}{6} + 2\pi k \\ \alpha &= \frac{5\pi}{6} + 2\pi k \end{aligned}}$$

התשובות הן  $\alpha = \frac{\pi}{6} + 2\pi k$  ו- $\alpha = \frac{5\pi}{6} + 2\pi k$

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