

19, 5

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$$\frac{1}{|\cos \alpha|} \cdot \frac{\sin \alpha}{\cos \alpha} = \frac{1}{|\cos \alpha|} \cdot \frac{\sin \alpha}{|\cos \alpha|} \rightarrow \frac{\sin \alpha}{\cos \alpha} = \frac{\sin \alpha}{|\cos \alpha|} \quad (1)$$

$$\frac{\cos \alpha}{\sin \alpha} = \frac{\cos \alpha}{|\sin \alpha|} \rightarrow \sin \alpha > 0 \Rightarrow \boxed{\text{الج ١}} \quad (5)$$

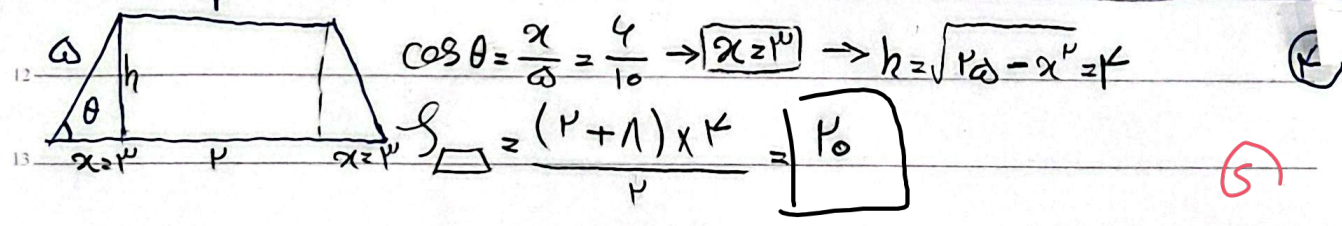
$$-\frac{\pi}{4} < \alpha < \frac{\pi}{4} \rightarrow -\frac{1}{p} < \frac{m-1}{k} < 1 \rightarrow \boxed{-1 < m < 1} \quad (2)$$

$$\frac{\mu \pi}{k} < \alpha < \pi \quad \frac{1}{\sin \alpha \cos \alpha} = -\mu \quad (\sin \alpha + \cos \alpha)^\mu = \sin^\mu \alpha + \cos^\mu \alpha + \mu \sin^{\mu-1} \alpha \cos \alpha + \dots$$

$$\Rightarrow \sin \alpha + \cos \alpha = -\frac{\sqrt{\mu}}{\mu} \quad \sin^\mu \alpha + \cos^\mu \alpha = (\sin \alpha + \cos \alpha)(\sin^{\mu-1} \alpha + \cos^{\mu-1} \alpha - \sin \cos)$$

$$\sin^\mu \alpha + \cos^\mu \alpha = \frac{-4}{k\sqrt{\mu}}$$

$$= \left(-\frac{\sqrt{\mu}}{\mu}\right) \left(1 + \frac{1}{\mu}\right) = \boxed{-\frac{k\sqrt{\mu}}{4}}$$



$$\tan\left(\frac{\mu \pi}{p} + 1\alpha\right) \tan(-\pi + 1\alpha) - \sin(1\alpha) \cos\left(\frac{\mu \pi}{p} - 1\alpha\right) =$$

$$(-\cot 1\alpha)(\tan 1\alpha) - (\sin 1\alpha)(-\sin 1\alpha) = -1 + \sin^2 1\alpha = -\cos^2 1\alpha \quad (3)$$

$$-\frac{\mu}{p} \left(\sin\left(\frac{\mu \pi}{p} - \mu\nu\right) - \cos(\pi - \mu\nu)\right) = +\frac{\mu}{p} \cos \mu\nu + \cos \mu\nu =$$

$$\frac{\cos \mu\nu \left(\frac{\mu + p}{p}\right)}{\cos \mu\nu} = \boxed{\frac{a}{p} = \mu/a}$$




$$\frac{1 + \cos \frac{\pi}{4}}{r} \cdot \frac{\mu}{k} \cdot \frac{1}{k} \cdot \frac{1}{k} = \frac{\mu}{k} \times \frac{k\sqrt{\mu}}{k} = \frac{4 + \mu\sqrt{\mu}}{14}$$

$$1 - \sin \alpha = k + k \sin \alpha \rightarrow 2 \sin \alpha = -\mu \rightarrow \sin \alpha = -\frac{\mu}{2} \rightarrow \cos \alpha = -\frac{k}{2}$$

$$\tan \frac{\alpha}{2} = \frac{\sin \alpha}{1 + \cos \alpha} = \frac{-\frac{\mu}{2}}{1 + (-\frac{k}{2})} = -\mu$$

$$\frac{1}{\tan \frac{\theta}{r}} + \frac{1}{\tan \frac{\theta}{p}} = r \cot \theta \rightarrow k = r$$



$$\cos\left(\frac{\mu\pi}{k} + \alpha\right) = \cos \frac{\mu\pi}{k} \cos \alpha - \sin \frac{\mu\pi}{k} \sin \alpha =$$

$$\left(-\frac{\sqrt{p}}{p}\right)\left(-\frac{\sqrt{p}}{10}\right) - \left(\frac{\sqrt{p}}{p}\right)\left(\frac{\sqrt{p}}{10}\right) = \frac{p}{10} - \frac{p}{10} = 0$$