

نام و نام خانوادگی پاسخنامه تشریحی تکلیف شماره ۱۷ کلاس ۱۲/۱۳۰۱

$$\sec \alpha = 1 + \tan \alpha = \frac{\cos \alpha + \sin \alpha}{\sin \alpha} \rightarrow \cos \alpha = \frac{1}{\sec \alpha} \rightarrow \cos \alpha = \frac{1}{4}$$

$$\begin{aligned} \alpha &= 2k\pi + \frac{\pi}{4} \\ \alpha &= 2k\pi - \frac{\pi}{4} \end{aligned}$$

$$\sin \alpha (1 + \cos \alpha) = 1$$

$$\frac{1}{\sin(\pi/4 + \alpha)} + \frac{1}{\cos(\pi/4 + \alpha)} = 0 \rightarrow \frac{1}{\cos \alpha} = -\frac{1}{\sin \alpha}$$

$$\cos \alpha = -\sin \alpha \quad \sin \alpha \cos \alpha \rightarrow \sin 2\alpha = -1/2 \rightarrow \begin{aligned} 2k\pi + \pi/6 &= \alpha \rightarrow \alpha = k\pi + \pi/6 \\ 2k\pi - \pi/6 &= \alpha \rightarrow \alpha = k\pi - \pi/6 \end{aligned}$$

$$\left. \begin{aligned} \cos(\alpha + \pi/4) &= 1/\sqrt{2} \\ \sin(\alpha + \pi/4) &= \sqrt{2}/2 \end{aligned} \right\} \rightarrow \cos(\alpha + \pi/4) = -\sin \alpha = 1/\sqrt{2} \quad -1/\sqrt{2} = -1/4$$

$$\rightarrow \sin \alpha = 1/\sqrt{2}$$

$$m \frac{1 - \sqrt{2}}{\sqrt{2}} = 2\sqrt{2} + \sqrt{2} + 2\sqrt{2} \rightarrow 4\sqrt{2} = m(1 - \sqrt{2}) \rightarrow m = \frac{4\sqrt{2}}{1 - \sqrt{2}}$$

$$\cos(\pi/4 - \pi/4) \cos(\pi/4) = 1$$

$$\cos(\pi/4 - \pi/4) = \cos(\pi/4 - \pi/4) \rightarrow \sin(\pi/4 + \pi/4) = 1$$

$$\sin(\pi/4 + \pi/4) = \pm 1 \rightarrow \pi/4 \in \pi/4$$

$$\sin \pi + \sqrt{r} \cos \pi = \sqrt{r} \xrightarrow{+ \sin \pi} 1 + \sqrt{r} \cot \pi = \frac{\sqrt{r}}{\sin \pi}$$

$$\rightarrow \frac{\sqrt{r} - \sin \pi}{\sin \pi} = \sqrt{r} \frac{\cos \pi}{\sin \pi} \rightarrow \sqrt{r} - \sin \pi = \sqrt{r} \cos \pi$$

$$\rightarrow r + \sin^2 \pi - r \sqrt{r} \sin \pi = r \cos^2 \pi$$

$$r \sin \pi \sin(\pi/4 - \pi/4) = 1 \rightarrow \cos \pi \sin \pi = -\frac{1}{r}$$

$$\frac{1}{r} \sin \pi = -\frac{\cos(\pi)}{r} \rightarrow \sin \pi = -\frac{1}{r} \rightarrow r \pi - \frac{\pi}{4} = \pi \rightarrow \pi = K\pi - \frac{\pi}{4}$$

$$r \pi + \frac{\pi}{4} = \pi \rightarrow K\pi + \frac{\pi}{4} = \pi$$