

نام و نام خانوادگی پاسخنامه تشریحی تکلیف شماره ۱۸ ... کلاس

$$\text{الف) } \tan\left(3\pi - \frac{\pi}{4}\right) + \sin\left(4\pi - \frac{\pi}{4}\right) \cos\left(3\pi - \frac{\pi}{4}\right) = -\tan\left(\frac{\pi}{4}\right) - \sin\left(-\frac{\pi}{4}\right) \left(-\cos\left(\frac{\pi}{4}\right)\right)$$

$$-1 + \frac{1}{\sqrt{2}} = -\frac{1}{\sqrt{2}} \quad \checkmark$$

$$\text{ب) } \tan\left(2\pi - \frac{\pi}{4}\right) \sin\left(4\pi - \frac{\pi}{4}\right) + \cos\left(3\pi + \frac{\pi}{4}\right) = -\tan\left(\frac{\pi}{4}\right) \left(-\sin\left(\frac{\pi}{4}\right)\right) + \cos\left(\frac{\pi}{4}\right)$$

$$-\frac{\sqrt{2}}{2} \left(-\frac{\sqrt{2}}{2}\right) - \frac{1}{2} = \frac{2}{4} - \frac{1}{2} = 0 \quad \checkmark$$

$$\cot n = 2 \Rightarrow \frac{\cos}{\sin} = 2 \Rightarrow \cos = 2n, \sin = n$$

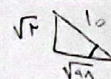
$$\frac{12n - n}{2n + n} = \frac{11}{3} \quad \checkmark$$

$$\tan = \frac{\sin}{\cos} = \frac{4\cos}{\cos} = 4$$

$$1 + \tan^2 = \frac{1}{\cos^2} \Rightarrow 1 + 16 = \frac{1}{\cos^2} \Rightarrow \cos^2 = \frac{1}{17} \Rightarrow \cos = \pm \frac{1}{\sqrt{17}}$$

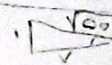
$$-\frac{1}{\sqrt{17}} \quad \checkmark$$

$$\cos\left(\frac{3\pi}{4} + a\right) = \cos\left(\frac{3\pi}{4}\right)\cos(a) - \sin\left(\frac{3\pi}{4}\right)\sin(a)$$



$$\left(-\frac{\sqrt{2}}{2}\right)\left(-\frac{\sqrt{11}}{5}\right) - \left(\frac{\sqrt{2}}{2}\right)\left(\frac{\sqrt{2}}{5}\right) = \frac{\sqrt{22}}{10} - \frac{2}{10} = \frac{12}{10} = \frac{6}{5} \quad \checkmark$$

$$\sin\left(\frac{5\pi}{4} + a\right) = \sin\left(\frac{5\pi}{4}\right)\cos(a) + \sin(a)\cos\left(\frac{5\pi}{4}\right) =$$



$$\sin a = \frac{4}{5}$$

$$\cos = \frac{3}{5}$$

$$\left(-\frac{\sqrt{2}}{2}\right)\left(\frac{3}{5}\right) + \left(\frac{1}{\sqrt{2}}\right)\left(-\frac{\sqrt{2}}{2}\right) = -\frac{3}{10} - \frac{1}{10} = -\frac{4}{10} = -\frac{2}{5} \quad \checkmark$$

$$\sin^2 a + \cos^2 n = \frac{4}{5} \Rightarrow \sin^2 n = \frac{1}{5} \Rightarrow \cos^2 n = \frac{4}{5}$$

$$\tan^2 n = \frac{1}{\cos^2 n} - 1 = \frac{5}{4} - 1 = \frac{1}{4} \quad \checkmark$$

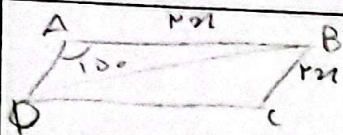
$$S_{ABC} = \frac{1}{2} \times \sin \alpha \times \sqrt{r} \times 4 = r/\omega \Rightarrow \sin \alpha = \frac{r/\omega}{2\sqrt{r}} = \frac{1/\omega}{\sqrt{r}} = \frac{\sqrt{r}}{r}$$

$$a < 1/\omega$$

$$\alpha \rightarrow 90^\circ$$

$$\rightarrow 120^\circ$$

$$\frac{120}{90} = 2 \quad \checkmark$$



$$\sin(100^\circ) = \frac{1}{r}$$

$$S_{ABCD} = \sin \alpha \times 2m \times 2n = \omega r$$

$$4mn \times \frac{1}{r} = \omega r \Rightarrow mn = 1/\omega \Rightarrow n = \sqrt{1/\omega}$$

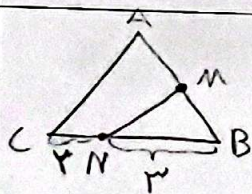
$$P = 10n = 10 \times \sqrt{1/\omega} = 10\sqrt{r} \quad \checkmark$$

$$1/\omega + \sin \alpha \times r \times V \times \frac{1}{r} = \sin \alpha \times V \times \omega \times \frac{1}{r}$$

$$1/\omega + 1/r \sin \alpha = \frac{r\omega}{r} \sin \alpha$$

$$\frac{V}{r} \sin \alpha = 1/\omega \Rightarrow \sin \alpha = \frac{1}{r} \Rightarrow \cos^2 = \frac{r}{r} \Rightarrow \cos = \frac{\sqrt{r}}{r}$$

$$\tan = \frac{1/r}{\sqrt{r}/r} = \frac{1}{\sqrt{r}} = \frac{\sqrt{r}}{r} \quad \checkmark$$



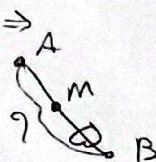
$$S_{ABC} = r S_{BMN}$$

$$\frac{1}{r} \times \sin \alpha \times \omega \times AB = r \times \frac{1}{r} \times \sin \alpha \times r \times MB$$

$$\omega AB = 9 MB \Rightarrow$$

$$\frac{MB}{AB} = \frac{\omega}{9}$$

$$\frac{MB}{AM} = \frac{\omega}{r} \quad \checkmark$$



$$\frac{|\sin \alpha|}{\cos \alpha} = -\frac{\sin \alpha}{\cos \alpha} \Rightarrow \sin \alpha < 0$$

$$\frac{1}{|\cos \alpha|} - \frac{\sin \alpha}{\cos \alpha} = \frac{1 + \sin \alpha}{|\cos \alpha|} \Rightarrow$$

$$\frac{-\sin \alpha}{|\cos \alpha|} = \frac{\sin \alpha}{\cos \alpha} \Rightarrow$$

$$\cos < 0$$

نایه سوم $\checkmark$