

پاسخنامه تشریحی تکلیف شماره کلاس

1

10

3

$$-r \leq m \leq d, d \quad -r, d \leq m - r \leq d \rightarrow |k| < m < n$$



$$\sin(1-\Delta) = \cos \Delta$$

$$\cos(\Delta) = -\sin \Delta$$

$$\cos(19\Delta) = -\cos \Delta$$

$$\sin(19\Delta) = -\sin \Delta$$

$$\frac{\cos \Delta - k \sin \Delta}{-\cos \Delta - \sin \Delta} = r$$

$$\frac{\sin \Delta}{\cos \Delta} = \frac{1}{r}$$

$$\rightarrow \frac{r-k}{-r-r} \cdot r \rightarrow -1 \cdot r - k \rightarrow k = r$$



$$\frac{1 - \cos \pi}{1 + \cos \pi} = r \rightarrow r + r \cos \pi = 1 - \cos \pi \rightarrow r \cos \pi = -1 \rightarrow \cos \pi = -\frac{1}{r}$$

$$\cos^2 \pi + \sin^2 \pi = 1 \rightarrow \frac{1}{r^2} + \sin^2 \pi = \frac{9}{r^2} \rightarrow \sin \pi = \frac{\sqrt{8}}{r} \rightarrow \sin \pi = \frac{\sqrt{r}}{r}$$

$$\frac{\cot \pi + \csc \pi}{\tan \pi - \sec \pi} = \frac{r \cot \pi}{- \csc \pi}$$

$$\frac{r \cot \pi}{- \csc \pi}$$

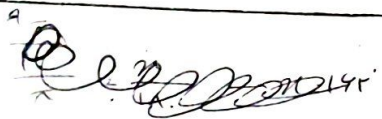
$$\frac{r \cot \pi}{- \csc \pi}$$

$$\frac{r \cot \pi}{- \csc \pi}$$

$$\frac{r \cot \pi}{- \csc \pi}$$



Y



$$\frac{1 \cdot \pi}{1 \cdot \pi} = \frac{\pi}{\pi} \rightarrow \pi = \frac{4\pi}{1} \cdot \frac{r}{\pi}$$



$$\frac{4R\pi}{1}$$



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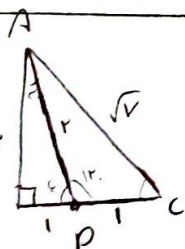
$$\frac{4R\pi}{1}$$

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1



$$AD = r \quad BC = 1$$

$$BD = 1$$

$$AB = \sqrt{r}$$

$$\frac{AB \cdot BC}{r} = \sqrt{r} \rightarrow \frac{\sqrt{r} \cdot 1}{r} = \sqrt{r} \rightarrow BC \cdot r$$



$$BC - BD = DC \rightarrow DC = 1$$

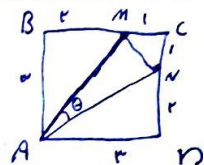
$$\sin \angle C = \frac{r \sin \angle C}{r} = \frac{r \sin \angle C}{r} = \frac{r \sin \angle C}{r}$$

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$$AC^2 = AB^2 + BC^2 \rightarrow AC^2 = r + 1 \rightarrow AC = \sqrt{r+1}$$

$$\frac{r \sin \angle C}{r}$$

$$S(ABC) = \frac{1}{2} \cdot 1 \cdot r \cdot \sin \angle C \rightarrow S(ABC) \cdot \frac{\sqrt{r}}{r} \rightarrow \frac{\sqrt{r}}{r} = \frac{1}{r} \cdot 1 \cdot \sqrt{r} \cdot \sin \angle C \rightarrow \sin \angle C = \frac{\sqrt{r}}{\sqrt{r}} \rightarrow \cos \angle C = \frac{r}{\sqrt{r}}$$



$$S(ABCD) = r \times r = r^2$$

$$S(\triangle ABM) = \frac{r \times r}{2} = \frac{r^2}{2}$$

$$S(\triangle ADN) = \frac{r \times r}{2} = \frac{r^2}{2}$$

$$S(\triangle MNC) = \frac{1}{2} \cdot \frac{1}{2} = \frac{1}{4}$$

$$\rightarrow S(\triangle AMN) = r^2 - \frac{r^2}{2} - \frac{r^2}{2} = \frac{r^2}{2}$$

$$AM^2 = AB^2 + BM^2 \rightarrow AM^2 = r + \frac{r}{2} \rightarrow AM = \sqrt{\frac{3r}{2}}$$

$$AN^2 = ND^2 + AD^2 \rightarrow AN^2 = \frac{r}{2} + r \rightarrow AN = \sqrt{\frac{5r}{2}}$$

$$S(\triangle AMN) = \frac{1}{2} \cdot AN \cdot AM \cdot \sin \theta = \frac{r^2}{2} \rightarrow \frac{1}{2} \cdot \sqrt{\frac{5r}{2}} \cdot \sqrt{\frac{3r}{2}} \cdot \sin \theta = \frac{r^2}{2} \rightarrow \sin \theta = \frac{2}{\sqrt{15}}$$

$$\sin \theta = \frac{2}{\sqrt{15}}$$



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