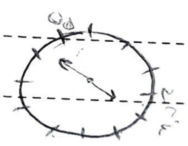
Subject: مشترک اساسی

۱۲٫۵

۳:۵۴′ → ۱۲

۵×۳۰ + ۳ + ۴×۶ = ۱۲۷ ۳ (۱

الم ثقل



فرمول

$a = |5{,}5M - 30H| \Rightarrow |5{,}5 \times 54 - 30 \times 3| = 297 - 90 = 207$

$360 - 207 = 153$ } ۳ (۲

$|30 \times 6 - 5{,}5 \times 18| = |180 - 99| = 81$ }

$\alpha = \frac{\pi}{3}$ } $r = 3$ } ۳ (۳

S قطاع $= \frac{1}{2} \times r^2 \times \alpha = \frac{1}{2} \times 9 \times \frac{\pi}{3} = \frac{9\pi}{6} = \frac{3\pi}{2}$ } S

P قطاع $=$ ۲ شعاع + طول قوس $= 2r + r\alpha = 6 + 3 \times \frac{\pi}{3} = 6 + \pi = 6 + \pi$ } P

۱٫۵ برحسب رادیان ۴ (

$B + C = 150$

$BC = 15$, $AC = 15\sqrt{2}$ $A = 30°$

$\frac{\pi}{4}$ $\frac{7\pi}{12}$

$\frac{a}{\sin A} = \frac{b}{\sin B} \Rightarrow \frac{15}{\sin 30} = \frac{15\sqrt{2}}{\sin B} \Rightarrow$ $B = 45$, $C = 105$ }

۵ ۶ (

$$\frac{\tan(\pi - \alpha) + \tan(\pi + \alpha)}{\tan(\frac{\pi}{2} - \alpha) - \tan(\frac{\pi}{2} + \alpha)}$$

$\tan(\frac{\pi}{2} - \alpha) = \cot\alpha = \frac{1}{\tan\alpha}$, $\tan(\frac{\pi}{2} + \alpha) = -\cot\alpha$

$\frac{1}{\tan\alpha} - (\frac{1}{\tan\alpha}) = \frac{2}{\tan\alpha} = ?$

Date: Subject:

$$\frac{\sin+\cos}{\sin-\cos}+\frac{\sin-\cos}{\sin+\cos}=۲^۲$$

$$t+\frac{۱}{t}=۲^۲ \rightarrow t=\frac{\sin+\cos}{\sin-\cos}$$

$$t^۲-۲t+۱=۰$$

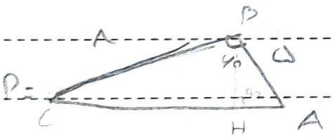
$$\tan\alpha=y$$

$$t=\frac{\sin+\cos}{\sin-\cos}=\frac{y+۱}{y-۱} \Rightarrow \tan^۲\alpha=۵$$

$$\cos ۲۲.۵^\circ=\cos\frac{۴۵}{۲}=\sqrt{\frac{۱+\cos ۴۵}{۲}}=\sqrt{\frac{۲+\sqrt{۲}}{۴}}$$

$$\sin ۶۷.۵=\sin(۹۰-۲۲.۵)=\cos ۲۲.۵=\frac{\sqrt{۲+\sqrt{۲}}}{۲}$$

$$S=\frac{۱}{۲}\times ۵\times ۸\times \sin ۶۰=\frac{۱}{۲}\times ۵\times ۸\times\frac{\sqrt{۳}}{۲}=۵\sqrt{۳}\times ۲=۱۰\sqrt{۳}$$



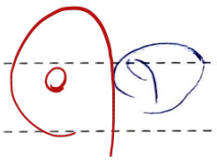
$$\frac{۶\sin^۲\alpha-۲\cos^۲\alpha+۱}{۶\sin^۲\alpha+۲\cos^۲\alpha-۱}=۴ \qquad \tan^۲\alpha=?$$

$$\frac{\frac{۶\sin^۲}{\cos^۲}-\frac{۲\cos^۲}{\cos^۲}+\frac{۱}{\cos^۲}}{\frac{\sin^۲}{\cos^۲}+\frac{۲\cos^۲}{\cos^۲}-\frac{۱}{\cos^۲}}=\frac{۶\tan^۲-۲+\frac{۱}{\cos^۲}}{\tan^۲+۲-\frac{۱}{\cos^۲}}=۴$$

$$\tan^۲-۲+\frac{۱}{\cos^۲}=۴\tan^۲+۸-\frac{۴}{\cos^۲}$$

$$۰=۳\tan^۲-\frac{۵}{\cos^۲}+۱۰$$

Elipon



$x^2 - 2y^2 + 1 = 4x^2 + 8y^2 - 4$

$0 = 3x^2 + 10y^2 - 5$

$\rightarrow 3x^2 + 3y^2 - 6y + 10y^2 - 5 = 0$

$13y^2 - 6y - 2 = 0$

$y^2 - 6y - 24 = 0$

$(3y)^2 = ?$

$\sin^2\theta = 1 - \cos^2\theta$

$x = 1 - y$