

الف) $\frac{D}{180} = \frac{R}{\pi}$

$\rightarrow \frac{14}{180} = \frac{r}{\pi} \rightarrow \frac{r}{\pi} = \frac{14}{180}$

ب) $\frac{D}{180} = \frac{R}{\pi}$

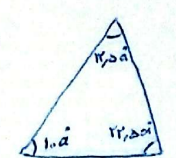
$\rightarrow \frac{125}{180} \times \frac{\pi}{180} = \frac{125\pi}{180} = \frac{25\pi}{36}$

ج) $\frac{2\pi}{121} \times \frac{180}{\pi} = 1.5^\circ$

د) $\frac{4\pi}{21} \times \frac{180}{\pi} = 1.0^\circ$

$\frac{D}{180} = \frac{Rad}{\pi} \quad \frac{D}{180} = \frac{G}{200}$

$\frac{125a}{x_1} = \frac{D}{180} \rightarrow \frac{125a}{1} = 125a$



$\frac{a\pi}{1} \times \frac{180}{\pi} = 22.5a$

$10a + 125a + 22.5a = 180 \rightarrow 180$
 $a = 1$

الف) $\frac{1}{r} \times \frac{\sqrt{3}}{r} - \frac{\sqrt{3}}{r} \times \frac{1}{r} - 1 + 2 = 1$

ب) $\frac{1}{r} + 1^2 + (\sqrt{3})^2 = \frac{13}{r} = \frac{13}{2\sqrt{3}} \times \frac{\sqrt{3}}{\sqrt{3}} = \frac{13\sqrt{3}}{6}$

$(-\frac{1}{r} \times \frac{1}{r}) + (\frac{\sqrt{3}}{r} \times \frac{\sqrt{3}}{r}) = \frac{1}{r}$
 $-\frac{1}{r} + \frac{3}{r} = \frac{1}{r}$

$\frac{1}{r} \rightarrow \sin^2$
 $\sin \rightarrow \frac{\sqrt{3}}{r} \rightarrow 60^\circ$

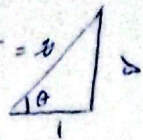
$\tan 60^\circ = \frac{1}{r}$

$(1 \times \frac{1}{\sqrt{3}}) \times (1 - \frac{1}{\sqrt{3}})$
 $\frac{1}{\sqrt{3}} \times \frac{1}{\sqrt{3}}$

$\tan \theta = \sqrt{3} \rightarrow 60^\circ$

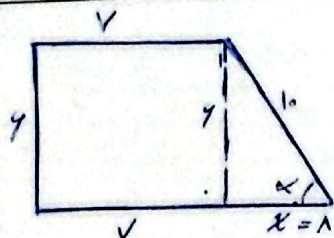
$\frac{D}{180} = \frac{R}{\pi} \rightarrow \frac{1}{180} \times \frac{\pi}{180}$
 $\rightarrow \frac{\pi}{r}$

$\frac{1}{\sqrt{3}} = \frac{r}{\sqrt{3}} \times \frac{\sqrt{3}}{\sqrt{3}} = \sqrt{3}$

$$\tan \theta = \frac{\Delta}{\sqrt{14}} = \frac{1}{\sqrt{14}}$$


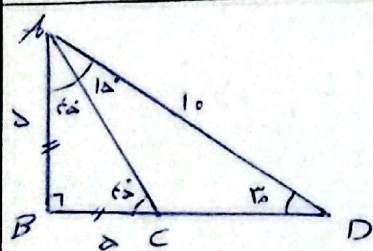
$$x^2 = \Delta^2 + 1^2 \quad x^2 = 14 \quad x = \sqrt{14} \rightarrow \sin \theta = \frac{\Delta}{\sqrt{14}} \quad \cos \theta = \frac{1}{\sqrt{14}}$$

$$\frac{r_x \frac{\Delta}{\sqrt{14}} - \frac{1}{\sqrt{14}}}{\frac{\Delta}{\sqrt{14}} - r_x \frac{1}{\sqrt{14}}} = \frac{\frac{14}{\sqrt{14}}}{\frac{1}{\sqrt{14}}} = \frac{14}{1}$$



$$x^2 = 10^2 - 4^2 = 100 - 16 = 84 \rightarrow x = \sqrt{84}$$

$$\text{Perimeter} = 4 + 1 + \sqrt{84} + 10 + \sqrt{84} = 16 + 2\sqrt{84}$$



$$10^2 - (4^2 + 4^2) = 2^2$$

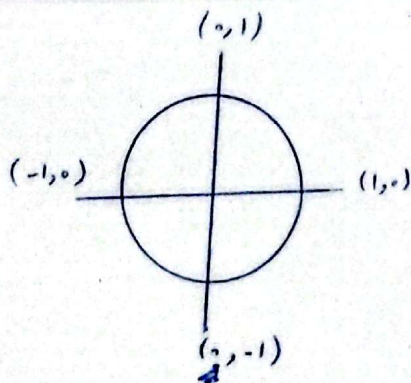
$$\hat{D} = 30^\circ$$

$$\sin 30^\circ = \frac{1}{2} \rightarrow AB = 2$$

$$BD = x \rightarrow x^2 = 10^2 - 2^2 \rightarrow 100 - 4 = 96 \quad x = \sqrt{96}$$

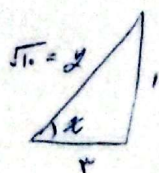
$$DC = \sqrt{96} - 2$$

الف) 3



ب) 2

$$\tan x = \frac{1}{2}$$



$$y^2 = 1^2 + 2^2 = 5 \quad y = \sqrt{5}$$

$$\sin x = \frac{1}{\sqrt{5}}$$

چون ضلع 2
sin منتهی است