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الف) $20^\circ \rightarrow \frac{20 \times \pi}{180} = \frac{\pi}{9}$

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

ج) $\frac{5\pi}{12} \text{ rad} \rightarrow \frac{5\pi}{12} \times \frac{180}{\pi} = 75^\circ$

د) $\frac{8\pi}{9} \text{ rad} \rightarrow \frac{8\pi}{9} \times \frac{180}{\pi} = 160^\circ$

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$\frac{120a}{9} \times \frac{9}{180} = 12,8a^\circ$

$\frac{a\pi}{180} \times \frac{180}{\pi} = 22,5a^\circ$

$10a + 22,5a + 12,8a = 110$

$55a = 110$

$a = 2^\circ$

✓ ۲

$\left(\frac{1}{r} \times \frac{\sqrt{3}}{r}\right) - \left(\frac{\sqrt{3}}{r} \times \frac{1}{r}\right) = 1 + 2 \times 1 = -1 + 2 = 1$

الف)

$\frac{\frac{3}{9} + 1 + 2}{\sqrt{3} - \frac{\sqrt{3}}{3}} = \frac{\frac{13}{3}}{\frac{2\sqrt{3}}{3}} = \frac{13}{2\sqrt{3}} = \frac{13\sqrt{3}}{6}$

✓ ۲

ب)

$-\frac{1}{r} \times \frac{1}{r} + \frac{\sqrt{3}}{r} \times \frac{\sqrt{3}}{r} = \sin^2 \theta$

$-\frac{1}{r} + \frac{3}{r} = \frac{2}{r} = \frac{1}{r} = \sin^2 \theta$

$\sin \theta = \frac{\sqrt{3}}{r}$ $\theta = 60^\circ$

$\tan \theta = 1$

✓ ۲

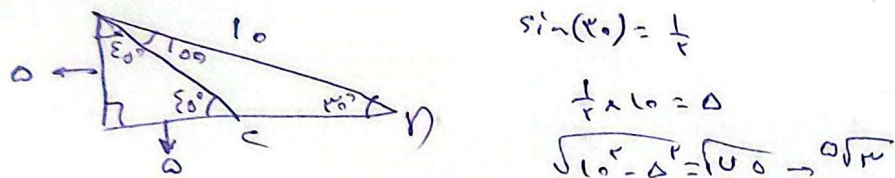
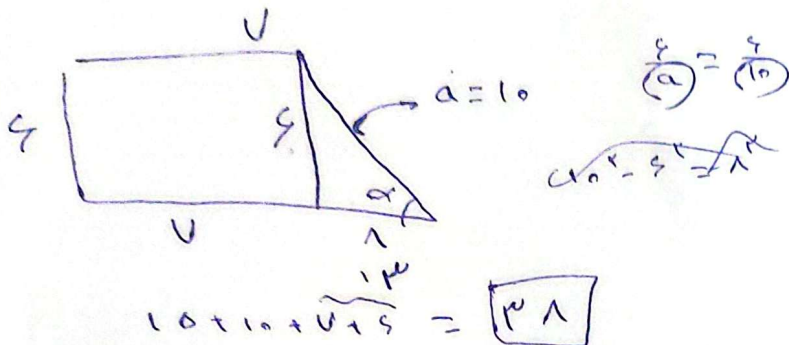
$\frac{\frac{3}{9} \times \frac{\sqrt{3}}{3} \left(\frac{3}{3}\right)}{\left(\frac{3}{3}\right)^2} = \sqrt{3} = \tan \theta \rightarrow \theta = \frac{\pi}{3} \text{ rad}$

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$$\csc \theta = \Delta \quad \csc \theta = \frac{\sin \theta}{\cos \theta} = \Delta \rightarrow \sin \theta = \Delta \cos \theta$$

$$\frac{3 \times \Delta \cos \theta - \cos \theta}{\Delta \cos \theta - \Delta \cos \theta} = \frac{1 \Delta \cos \theta}{\cos \theta} = \boxed{1 \Delta} \quad \textcircled{2} \checkmark$$



$$5\sqrt{3} - 5 = \boxed{5\sqrt{3} - 5} \quad \textcircled{2} \checkmark$$

