

نام و نام خانوادگی: پاسخنامه تشریحی تکلیف شماره ۱۹. کلاس ۳. برای پایه هفتم

الف) $\frac{27}{11} = \frac{Rad}{\pi} \Rightarrow 27\pi = 11 \cdot Rad \Rightarrow Rad = \frac{27\pi}{11} = \frac{27\pi}{11}$

ب) $\frac{15}{11} = \frac{Rad}{\pi} = 15\pi = 11 \cdot Rad \Rightarrow Rad = \frac{15\pi}{11} = \frac{15\pi}{11}$

ج) $\frac{D}{11} = \frac{5\pi}{\pi} \Rightarrow D = 55 \Rightarrow D = 55^\circ$

د) $\frac{D}{11} = \frac{5\pi}{\pi} \Rightarrow 55 = 9D \Rightarrow D = 10^\circ$

$\frac{a\pi}{\pi} = \frac{D}{11} \Rightarrow 11a = 11D \Rightarrow D = 11a$ $\frac{15a}{9} = \frac{D}{11} \Rightarrow D = 15a$

$11a = 11 \Rightarrow a = 1$ $10a = 10$ $15a = 15$ $11a = 11$

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

ب) $\frac{(\frac{\sqrt{3}}{2})^2 + 1 + (\frac{\sqrt{3}}{2})^2}{\sqrt{3} - \frac{\sqrt{3}}{2}} = \frac{\frac{3}{4} + 1 + \frac{3}{4}}{\frac{2\sqrt{3}}{2} - \frac{\sqrt{3}}{2}} = \frac{\frac{3}{4} + 1 + \frac{3}{4}}{\frac{\sqrt{3}}{2}} = \frac{2\sqrt{3}}{\sqrt{3}} = 2$

$(-\frac{1}{2} \times \frac{1}{2}) + (\frac{\sqrt{3}}{2} \times \frac{\sqrt{3}}{2}) = \frac{1}{2} = \sin^2 \theta \Rightarrow \sin \theta = \frac{\sqrt{2}}{2} \Rightarrow \cos \theta = \frac{\sqrt{2}}{2}$

$\Rightarrow \tan \theta = 1 \Rightarrow \theta = 45^\circ$

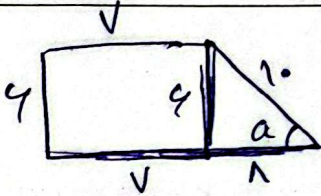
$\frac{2 \tan^2 \theta (1 - \tan^2 \theta)}{(1 - \tan^2 \theta)^2} = \frac{2 \tan^2 \theta}{1 - \tan^2 \theta} = \frac{2}{\frac{1}{\tan^2 \theta}} = \frac{2}{\frac{1}{2}} = 4 = \tan \theta$

$\Rightarrow \theta = 90^\circ$

$$\tan \theta = \frac{\sin \theta}{\cos \theta} \Rightarrow \sin \theta = \tan \theta \cdot \cos \theta \Rightarrow r \sin \theta = r \tan \theta \cdot \cos \theta = 1 \cdot \cos \theta$$

$$\sin \theta = \tan \theta \cdot \cos \theta = \frac{1 \cdot \cos \theta - \cos \theta}{\cos \theta - \cos \theta} = 1$$

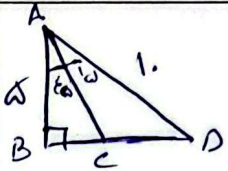
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$$\sin \alpha = \frac{4}{5} \Rightarrow \text{وتر} = 5 \Rightarrow 4^2 + 1^2 = 5^2$$

$$x^2 = 4^2 \Rightarrow x = 4 \quad \sqrt{1^2 + 4^2} = 5$$

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$$\sin \epsilon = \frac{\sqrt{5}}{5} = \frac{BD}{10} \Rightarrow BD = \sqrt{5} \quad \cos \epsilon = \frac{1}{5} = \frac{AB}{10} \Rightarrow AB = \sqrt{5}$$

$$\tan \epsilon = 1 \Rightarrow BC = \sqrt{5} \Rightarrow DC = \sqrt{5} - \sqrt{5} = 0$$

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الف) ناصیه سیم

ب) ناصیه دوم

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$$\tan \alpha = \frac{1}{5} \Rightarrow \frac{\sin \alpha}{\cos \alpha} = \frac{1}{5} \Rightarrow \cos \alpha = 5 \sin \alpha \quad \sin^2 \alpha + \cos^2 \alpha = 1$$

$$\sin^2 \alpha + (5 \sin \alpha)^2 = 1 \Rightarrow 26 \sin^2 \alpha = 1 \Rightarrow \sin^2 \alpha = \frac{1}{26} \Rightarrow \sin \alpha = \frac{1}{\sqrt{26}} = \frac{\sqrt{10}}{10}$$

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