

19, 28

سید، علی

$$\Rightarrow \frac{rV}{\lambda_0} = \frac{n}{\lambda}$$

$$\lambda_0 \cdot n = rV\pi \Rightarrow n = \frac{rV\pi}{\lambda_0} = \frac{r\pi}{r_0}$$

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$$\Rightarrow \frac{r\Delta}{\lambda_0} = \frac{n}{\lambda} \Rightarrow \lambda \cdot n = r\Delta\pi \Rightarrow n = \frac{r\Delta\pi}{\lambda_0} = \frac{r\Delta\pi}{r_0}$$

$$2.) \frac{\Delta\pi}{r} = \frac{n}{\lambda_0} = \frac{\Delta}{\lambda} \Rightarrow \lambda \cdot n = \Delta \cdot r \Rightarrow n = \frac{\Delta \times r}{\lambda_0} \quad (V\Delta) \checkmark$$

$$\Rightarrow \frac{\Delta\pi}{r} = \frac{n}{\lambda_0} \Rightarrow \lambda \cdot n = \Delta \cdot r \Rightarrow n = \lambda_0 \quad \checkmark$$

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(1, V\Delta)

$$\frac{\frac{r\Delta\pi}{r}}{r_0} = \frac{n}{\lambda_0} \Rightarrow \frac{r\Delta\pi}{r_0 \times r} = \frac{n}{\lambda_0}$$

$$\frac{r\Delta\pi}{\lambda_0} = \frac{n}{\lambda_0} \Rightarrow n = (r, \Delta\pi) \quad \checkmark$$

$$\frac{\frac{a\pi}{\lambda}}{r} = \frac{n}{\lambda_0} \Rightarrow \frac{a}{\lambda} = \frac{n}{\lambda_0} \Rightarrow \lambda_0 \cdot a = \lambda \cdot n$$

$$\frac{\lambda_0 \cdot a}{\lambda} = n \quad \checkmark$$

$$r_1 \cdot \Delta + r_2 \cdot \Delta + \dots = \lambda_0$$

$$\sum \Delta a = \lambda_0 \rightarrow a = r$$

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

$$-1 + 2 = 1 \quad \checkmark$$

$$\frac{1}{2} + 1 + 2 = \frac{1}{2} + \frac{2}{2} + \frac{4}{2} = \frac{7}{2} \quad \checkmark$$

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

1

$$\left(\frac{1}{2} \times \frac{1}{2} \right) + \frac{\sqrt{2}}{2} \times \frac{\sqrt{2}}{2} = \sin^2 \theta$$

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$$\frac{1}{2} = \sin^2 \theta \Rightarrow \sin \theta = \frac{1}{\sqrt{2}} \Rightarrow \cos \theta = \frac{1}{\sqrt{2}}$$

$$\Rightarrow \tan \theta = \frac{1}{1} = 1 \quad \checkmark$$

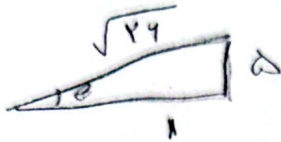
$$\frac{1}{2} \left(\frac{1}{2} \times \frac{\sqrt{2}}{2} \right) - \left(\frac{\sqrt{2}}{2} \times \frac{1}{2} \right) - (1) + (2)$$

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

$$\tan \theta = 1 \Rightarrow \theta = \frac{\pi}{4}$$

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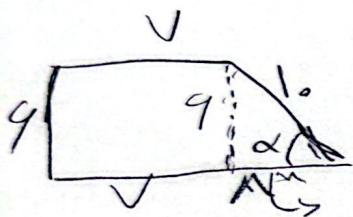
$$\sin \theta = \frac{a}{\sqrt{1+a^2}}$$

$$\cos \theta = \frac{1}{\sqrt{1+a^2}}$$

$$\frac{\frac{1a}{\sqrt{1+a^2}} - \frac{1}{\sqrt{1+a^2}}}{\frac{a}{\sqrt{1+a^2}} - \frac{1}{\sqrt{1+a^2}}} = \frac{\frac{1a-1}{\sqrt{1+a^2}}}{\frac{a-1}{\sqrt{1+a^2}}} = \frac{1a-1}{a-1} = 1 \quad \checkmark$$

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$$\sin \alpha = \frac{a}{\sqrt{1+a^2}}$$

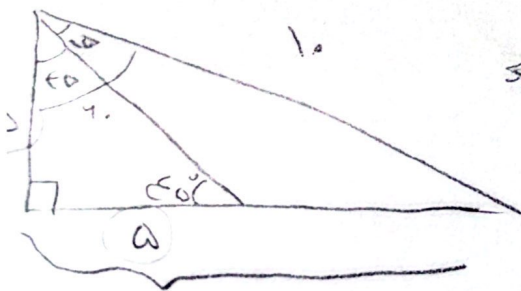
$$\sin \alpha = \frac{a}{\sqrt{1+a^2}} \Rightarrow \sqrt{1+a^2} = 1$$

$$a = \sqrt{1-1} = 0$$

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$$L = \frac{9+9}{1} + \frac{1+a}{\sqrt{1+a^2}} = 18 + \frac{1+a}{\sqrt{1+a^2}} \quad \checkmark$$



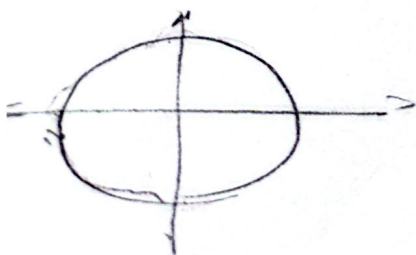
$$\cos \alpha = \frac{a}{\sqrt{a^2+1}}$$

$$\frac{a}{\sqrt{a^2+1}} = \frac{1}{\sqrt{2}} \Rightarrow a = 1$$

$$1.0^2 - 1.0^2 = a^2 + n^2$$

$$\sqrt{a^2} = n$$

$$\sqrt{a^2} = n \Rightarrow DC = \sqrt{a^2} = a \quad \checkmark$$



✓ سو (ب)

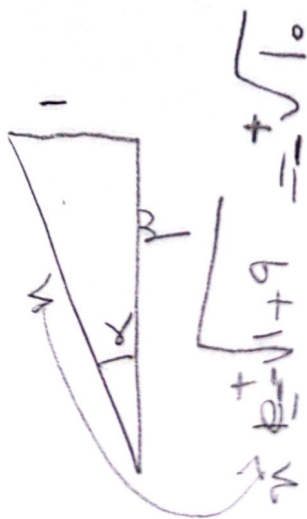
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✓ سو (ـ)

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$$\sin \alpha = \frac{1}{4}$$

داده شده است