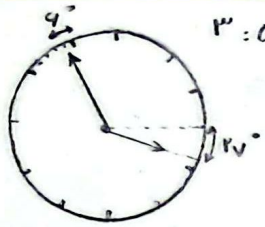


تھم انافذ اعلى - (ص ۱۹۰) - تالیف سہ ماہی ۱۹۱۹

(الف)



$$P \cdot \Delta F \quad \Delta F \div P = PV$$

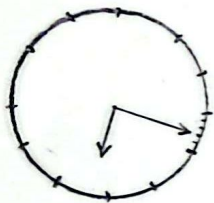
$$K \times P_0 = 1P_0$$

$$1P_0 + PV + Y = 1.5P_0$$

$$\text{b) } |\Delta, \Delta m - \hbar| = |\Delta, \Delta \times \Delta F - \hbar \times \hbar| = |29V - 9.1|$$

$$= 20V \rightarrow 20V - 20V = \boxed{10\hbar}, \boxed{20V}$$

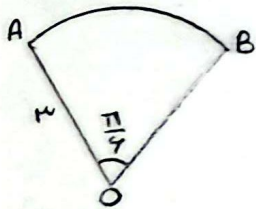
(الف)



$$\begin{aligned} 4 &= 1A \\ 1A \div 4 &= 9 \\ 4 \times 9 &= 36 \\ 4 \times 9 &= 36 \\ 4 + 36 + 9 &= 49 \end{aligned}$$

$$b) |\vec{a}, \vec{a}m - \vec{c}h| = |\vec{a}, \vec{a} \times 11 - \vec{c} \times 9| = |99 - 11 \cdot| =$$

$$|-11| = \boxed{11^\circ}$$



$$\text{الف) } \frac{\alpha}{r} R^v = \frac{\pi}{9} \times 12^v = \frac{\pi}{12} \times 9 =$$

$$\frac{9\pi}{12} = \frac{3\pi}{4} = \boxed{\frac{3\pi}{4}}$$

$$b) \alpha R = \frac{\pi}{4} \times r = \boxed{\frac{\pi}{4}}$$

①

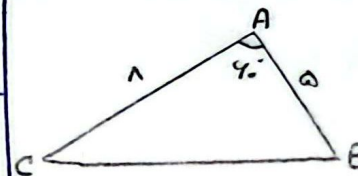
④

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④

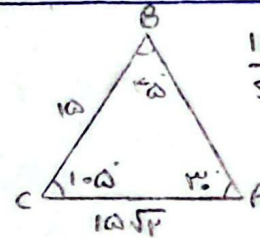


$$f(\varphi) = \frac{1}{r} \times \omega \times \Lambda \times \sin \varphi =$$

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

$$\begin{aligned} \text{v) } BC &= \sqrt{a^2 + b^2 - 2ab \cos \alpha} = \sqrt{1^2 + 4^2 - 2 \times 1 \times 4 \times \frac{1}{2}} \\ &= \sqrt{1 + 16 - 4} = \sqrt{11} = \sqrt{11} \end{aligned}$$

$$A + \Delta + V = Y.$$



$$\frac{1\omega}{\sin 45^\circ} = \frac{1\omega\sqrt{r}}{\sin \beta} \rightarrow \frac{1\omega}{\frac{1}{\sqrt{r}}} = \frac{1\omega\sqrt{r}}{\sin \beta}$$

$$\sin B = \frac{\frac{1}{P} \times 10\sqrt{P}}{10} = \frac{\sqrt{P}}{P} \rightarrow B = \frac{1}{\sqrt{P}}$$

$$C' = 1\omega \cdot - f\omega = 1\omega$$

$$\beta = r\omega = \frac{\pi}{r} \rightarrow \boxed{\beta = \frac{\pi}{r}}$$

$$C = 1.0 \rightarrow \frac{1.0}{1\lambda_0} = \frac{\text{Rad}}{\pi} \rightarrow \text{Rad} = \frac{1.0 \pi}{1\lambda_0} = \frac{V \pi}{1\lambda} \rightarrow \boxed{C = \frac{V \pi}{1\lambda}}$$

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

$$= \frac{r \tan \alpha}{-r \tan \alpha} = \boxed{-1}$$

$$\tan \frac{\pi}{11} = a \rightarrow \frac{a}{11} = \frac{\pi}{11} \rightarrow \frac{a}{11} = \frac{1}{11} \rightarrow a = 11$$

$$A = \frac{r \tan \nu \Delta + \tan \nu \Delta}{r \tan \nu \Delta - \tan \nu \Delta}$$

$$\frac{r \tan(90^\circ - 10^\circ) + \tan(90^\circ + 10^\circ)}{r \tan(10^\circ - 10^\circ) - \tan(10^\circ + 10^\circ)} =$$

$$\frac{r \tan(\frac{\pi}{2} - 10^\circ) + \tan(\frac{\pi}{2} + 10^\circ)}{r \tan(10^\circ - 10^\circ) - \tan(\frac{\pi}{2} - 10^\circ)} = \frac{r \cot 10^\circ - \cot 10^\circ}{r \tan 10^\circ - \cot 10^\circ} =$$

$$\frac{\frac{r}{\tan 10^\circ} - \frac{1}{\tan 10^\circ}}{-r \tan 10^\circ - \frac{1}{\tan 10^\circ}} = \frac{\frac{r}{a} - \frac{1}{a}}{-\frac{r}{a} - \frac{1}{a}} = \frac{\frac{1}{a}}{-\frac{r+1}{a}} = \frac{1}{-r-1}$$

$$\boxed{-\frac{1}{r+1}}$$

(v)

$$\frac{\sin^r x - r \cos^r x + 1}{\sin^r x + r \cos^r x - 1} = r$$

(9)

$$\frac{\frac{\sin^r x}{\cos^r x} - \frac{r \cos^r x}{\cos^r x} + \frac{1}{\cos^r x}}{\frac{\sin^r x}{\cos^r x} + \frac{r \cos^r x}{\cos^r x} - \frac{1}{\cos^r x}} = \frac{\tan^r x - r + 1 + \tan^r x}{\tan^r x + r - 1 + \tan^r x} = r$$

$$\frac{r \tan^r x - 1}{1} = r \rightarrow r \tan^r x = \Delta \rightarrow \boxed{\tan^r x = \frac{\Delta}{r} = r, \Delta}$$

$$\text{iii) } \cos(r\nu, \Delta) =$$

(10)

$$\cos^r \alpha = \frac{1 + \cos r\alpha}{r} = \frac{1 + \cos r\Delta}{r} = \frac{1 + \frac{\sqrt{r}}{r}}{r} = \frac{r + \sqrt{r}}{r} = \frac{r + \sqrt{r}}{r}$$

$$\rightarrow \cos \alpha = \pm \frac{\sqrt{r + \sqrt{r}}}{r} \rightarrow \cos r\nu, \Delta = \boxed{+\frac{\sqrt{r + \sqrt{r}}}{r}}$$

$$\text{iv) } \sin(r\nu, \Delta)$$

$$\sin^r \alpha = \frac{1 - \cos r\alpha}{r} = \frac{1 - \cos r\Delta}{r} = \frac{1 - (-\frac{\sqrt{r}}{r})}{r} = \frac{r + \sqrt{r}}{r}$$

$$\rightarrow \sin \alpha = \pm \frac{\sqrt{r + \sqrt{r}}}{r} \rightarrow \sin \alpha = \boxed{+\frac{\sqrt{r + \sqrt{r}}}{r}}$$

(A)

$$\frac{\sin x + \cos x}{\sin x - \cos x} + \frac{\sin x - \cos x}{\sin x + \cos x} = r$$

$$\frac{\sin^r x + \cos^r x + r \sin x \cos x + \sin^r x + \cos^r x - r \sin x \cos x}{\sin^r x - \cos^r x} = r$$

$$\frac{r}{\sin^r x - \cos^r x} = r \rightarrow r \sin^r x - r \cos^r x = r$$

$$r \sin^r x - r(1 - \sin^r x) = r \rightarrow r \sin^r x - r + r \sin^r x = r$$

$$4 \sin^r x = \Delta \rightarrow \sin^r x = \frac{\Delta}{4}$$

$$\cos^r x = 1 - \frac{\Delta}{4} = \frac{1}{4}$$

$$\tan^r x = \frac{\sin^r x}{\cos^r x} = \frac{\frac{\Delta}{4}}{\frac{1}{4}} = \boxed{\Delta}$$