

$$\frac{a \sin(\pi + \frac{\pi}{4}) + b \cos(\pi + \frac{\pi}{4})}{a \sin(\frac{\pi}{4} + \frac{\pi}{4}) + b \cos \frac{\pi}{4}} = \frac{-\frac{a\sqrt{2}}{2} - \frac{b\sqrt{2}}{2}}{-\frac{a}{2} + \frac{b}{2}} = -\frac{\sqrt{2}}{2}$$

$$-\frac{\sqrt{2}}{2}a - \frac{\sqrt{2}}{2}b = \frac{\sqrt{2}}{2}a - \frac{\sqrt{2}}{2}b$$

$$-\sqrt{2}b = \sqrt{2}a \Rightarrow \frac{b}{a} = -1$$

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$$P = \frac{1}{2} + i\frac{\sqrt{3}}{2}$$

$$b = \sqrt{2 - 2x - \frac{\sqrt{2}}{2}} = \sqrt{2 + \sqrt{2}}$$

$$\cos 150^\circ = -\frac{\sqrt{3}}{2}$$

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$$\frac{1}{9} = \frac{2}{9}$$

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$$\frac{1}{9} = \frac{2}{9}$$

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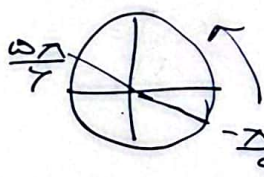
$$\alpha = \left| \frac{11M}{2} - 30H \right|$$

$$30 = \left| \frac{11M}{2} - 90 \right|$$

$$\frac{11M}{2} - 90 = 30 \Rightarrow M = 20$$

$$\frac{11M}{2} - 90 = -30 \Rightarrow M = 12, \dots$$

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$$-\frac{1}{2} < \frac{m-3}{5} \leq 1 \Rightarrow \frac{5}{2} < m-3 \leq 12$$

$$\frac{1}{2} < m \leq 1$$

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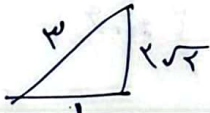
$$\sin\left(\frac{\pi}{4} + \omega\right) + k \cos\left(\frac{\pi}{4} - \omega\right)$$

$$= \frac{\cos \omega - k \sin \omega}{-\cos \omega - \cancel{r} \sin \omega} = \cancel{r} \frac{\sin \omega}{\cos \omega}$$

$$\frac{\cos(\pi - \omega) + \cancel{r} \sin(\pi + \omega)}{1 - \cancel{k} \tan \omega} = \cancel{r} \frac{-1 - \cancel{k} \tan \omega}{-1 - \cancel{r} \tan \omega} = \cancel{r} \Rightarrow k = \cancel{r}$$

$$\frac{\cot \pi + \cot \pi}{\tan \pi - \cancel{r} \tan \pi - \tan \pi} = \frac{\cancel{r} \cot \pi}{-\tan \pi} = \frac{-\sqrt{r}}{+\sqrt{r}} = -\frac{1}{r}$$

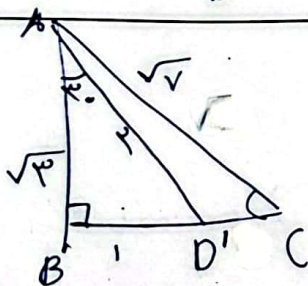
$$\frac{1 - \cos \pi}{1 + \cos \pi} = \cancel{r} \Rightarrow \cancel{r} + \cancel{r} \cos \pi = 1 - \cos \pi \Rightarrow \cancel{r} \cos \pi = -1$$

$\cos \pi = -\frac{\sqrt{r}}{r}$ $\tan = -\sqrt{r}$  $\cos \pi = -\frac{1}{r}$

A  $\frac{1.0}{1.0} = \frac{\pi}{\pi} = \pi = \frac{\pi}{\omega} \Rightarrow \frac{\pi}{\omega} r = L$

B  $\frac{1.0}{1.0} \times r' = L$ $\frac{1.0}{1.0} r' = \frac{\pi}{\omega} r \Rightarrow \frac{r_A}{r_B} = \frac{\pi}{r}$

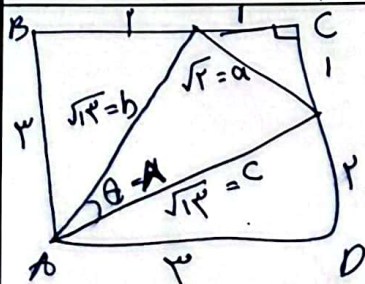
$$\frac{S_A}{S_B} = \frac{\pi r_A^2}{\pi r_B^2} = \frac{a}{c}$$



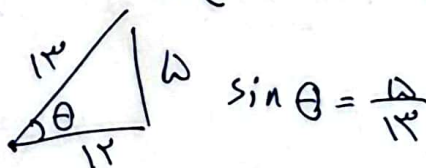
$$S = \frac{1}{2} \sin \theta \times AB \times BC = \frac{1}{2} \times \sqrt{r} \times \sqrt{r} = \frac{r}{2} \Rightarrow BC = \sqrt{r}$$

$$\sin \theta = \frac{BC}{AC} = \frac{\sqrt{r}}{\sqrt{2r}} = \frac{1}{\sqrt{2}} \Rightarrow \frac{r}{\sqrt{r}} = \frac{r \sqrt{r}}{r} = \frac{r \sqrt{r}}{r}$$

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



$$\cos \theta = \frac{b^2 + c^2 - a^2}{2bc} = \frac{1^2 + 1^2 - r}{2 \times 1 \times 1} = \frac{1-r}{2}$$



$$\sin \theta = \frac{1}{\sqrt{2}}$$