

$$r v^{\circ} = (\alpha) \text{ rad} \Rightarrow \frac{r v}{110} = \frac{R \alpha}{R} \Rightarrow \frac{q}{y_0} = \frac{v}{y_0} = \frac{R \alpha}{R} \Rightarrow \frac{v R}{y_0} = R \alpha$$

$$1 r \alpha^{\circ} = (\alpha) \text{ rad} \Rightarrow \frac{1 r \alpha}{110} = \frac{r \alpha}{r y} = \frac{R \alpha}{R} \Rightarrow R \alpha = \frac{r \alpha R}{r y} = R \alpha$$

$$\frac{\alpha R}{r} \text{ rad} = (\alpha)^{\circ} \Rightarrow \frac{D}{110} = \frac{\frac{\alpha R}{r}}{R} = \frac{\alpha}{r} = \frac{D}{110} \Rightarrow D = v \alpha^{\circ}$$

$$\frac{f R}{q} \text{ rad} = (\alpha)^{\circ} \Rightarrow \frac{D}{110} = \frac{\frac{f R}{q}}{R} = \frac{D}{110} = \frac{f}{q} \Rightarrow D = 110$$

$$\frac{1 r \alpha}{q} \leftarrow \frac{D}{110} \leftarrow \frac{f}{y_0} \rightarrow \frac{D}{110} = \frac{1 r \alpha}{q} \rightarrow \frac{1 r \alpha}{q} \times \frac{y_0}{y_0} = \frac{1 r \alpha}{10}$$

$$\frac{1 r \alpha}{10} + \frac{f \alpha}{r} + 1 \alpha = 110 \Rightarrow \frac{D}{110} = \frac{\alpha R}{R} = \frac{\alpha R}{r} \times \frac{y_0}{y_0} = \frac{f \alpha}{r}$$

$$\frac{1 r \alpha}{10} + \frac{r r \alpha}{10} + \frac{100 \alpha}{10} = 110 \Rightarrow \frac{f \alpha}{r} = 110 \Rightarrow \alpha = r^{\circ}$$

$$\cos 40^{\circ} \cos r^{\circ} - \sin 40^{\circ} \sin r^{\circ} - \tan 40^{\circ} + r \cot 40^{\circ} = \frac{\sqrt{r}}{r} = \frac{\sqrt{r}}{r} - 1 + r = 1 \quad (1)$$

$$\frac{1}{r} \times \frac{\sqrt{r}}{r} - \frac{\sqrt{r}}{r} \times \frac{1}{r} - 1 + r$$

$$\frac{\tan r^{\circ} + \tan r 40^{\circ} + \tan r^{\circ}}{\cot r^{\circ} - \cot 40^{\circ}} = \frac{\frac{1}{r} + 1 + r}{\sqrt{r} - \frac{\sqrt{r}}{r}} = \frac{\frac{1}{r}}{\frac{r \sqrt{r}}{r}} = \frac{1}{r \sqrt{r}}$$

$$\tan r^{\circ} = \left(\frac{\sqrt{r}}{r}\right)^r = \frac{r}{q} = \frac{1}{r} / \tan 40^{\circ} = (1/r) = 1 / \tan 40^{\circ} = (\sqrt{r})^r = r$$

$$\frac{\sqrt{r} - \sqrt{r}}{1 - r} = \frac{r \sqrt{r} - \sqrt{r}}{r} = \frac{r \sqrt{r}}{r} / \frac{1}{r} + 1 + r = \frac{1 + r + 9}{r} = \frac{1}{r}$$

$$-\sin r^{\circ} \cos 40^{\circ} + \cos r^{\circ} \sin 40^{\circ} = \sin r \theta \quad \tan \theta = ?$$

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

$$\theta = r \alpha \Rightarrow \tan r \alpha = 1$$

$$\frac{r \sqrt{r}}{r} \quad \left(\frac{\sqrt{r}}{r}\right)^r = \frac{r}{q} = \frac{1}{r} \quad 1 - \frac{1}{r} = \frac{r}{r}$$

$$\frac{r \tan r^{\circ} (1 - \tan r^{\circ})}{(1 - \cot r 40^{\circ})^r} = \tan \theta \Rightarrow \frac{\frac{r \sqrt{r}}{r} \left(\frac{1}{r}\right)}{\frac{f}{q}} = \frac{\frac{r \sqrt{r}}{q}}{\frac{f}{q}} = \frac{r \sqrt{r}}{f} = \sqrt{r} = \tan \theta$$

$$\left(\frac{\sqrt{r}}{r}\right)^r = \frac{r}{q} = \frac{1}{r} = \left(\frac{1}{r}\right)^r = \frac{f}{q} \quad \theta = 40^{\circ}$$

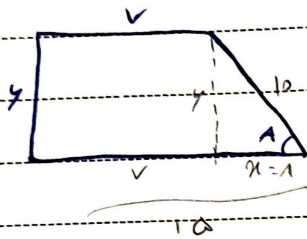
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$$\sin \theta = \frac{a}{c} \quad \tan \theta = \frac{a}{b} \quad (8)$$

$$\frac{r \sin \theta - \cos \theta}{\sin \theta - r \cos \theta}$$

$$\frac{\sin \theta}{\cos \theta} = \frac{a}{b}$$

$$\frac{r \times a \cos \theta - \cos \theta}{a \cos \theta - r \cos \theta} = \frac{1 \times \cos \theta}{\cos \theta} = 1$$



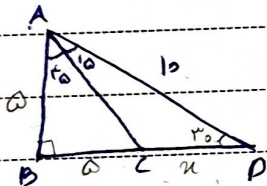
$$r y + x = 10$$

$$x = 1$$

$$v + y + 10 + 10 = r \times 1$$

$$r \times \sin A = \frac{y}{10} \quad (9)$$

$$\frac{y}{r \times 10}$$



$$\frac{a}{r \times 10} = \sin \theta = \frac{AB}{10} \Rightarrow \frac{1}{r} = \frac{AB}{10} \Rightarrow AB = a$$

$$\tan \theta = \frac{BC}{a} = 1 = \frac{BC}{a} \Rightarrow BC = a$$

$$\cot \theta = \frac{a + DC}{a} = \sqrt{2} \Rightarrow a\sqrt{2} = DC + a$$

$$a\sqrt{2} - a = DC$$

درنا ۳ (الف)

$$\sin \theta = ? \quad \tan \theta = \frac{1}{r} \quad (10)$$

درنا ۲ (ب)

$$\sin \theta = ? \quad \tan \theta = \frac{1}{r} \quad (10)$$

$$\sin \theta = \frac{a}{c} \quad \tan \theta = \frac{a}{b}$$

$$\sin \theta = \frac{1}{\sqrt{10}}$$



$$\sin \theta = \frac{1}{\sqrt{10}}$$