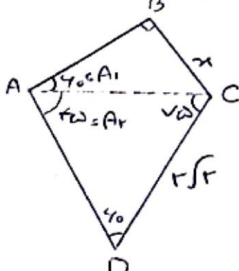


$$\hat{B} + \hat{C} = 120 \rightarrow 180 - 120 - 40 = \hat{A}$$

$$\frac{a}{\sin A} = \frac{b}{\sin B} \rightarrow \frac{r}{\sin 40} = \frac{r}{\sin B} \rightarrow \sin B = \frac{r}{r} = 1 \rightarrow \hat{B} = 90$$

$$120 - 90 = 30 = \hat{C}$$

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$$180 - (40 + 40) = 100 = \hat{B}$$

$$\frac{a}{\sin A} = \frac{d}{\sin D} \rightarrow \frac{r}{\sin 40} = \frac{AC}{\sin 40} \rightarrow AC = r$$

$$\sin A = \frac{x}{AC} \rightarrow \frac{r}{r} = \frac{x}{r} \rightarrow x = r$$

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$$(b^2 - r^2) \times \frac{\sin \hat{C}}{\sin \hat{B}} = C \rightarrow \frac{C}{\sin \hat{C}} = \frac{b}{\sin \hat{B}} \rightarrow \frac{\sin \hat{C}}{\sin \hat{B}} = \frac{C}{b}$$

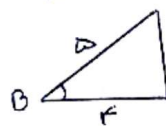
$$\hookrightarrow (b^2 - r^2) \times \frac{C}{b} = C \xrightarrow{C \neq 0} (b^2 - r^2) \times \frac{1}{b} = 1 \rightarrow b^2 - b - r = 0 \rightarrow b = -1$$

غیرقابل قبول
 $\hookrightarrow b = r$ قابل قبول

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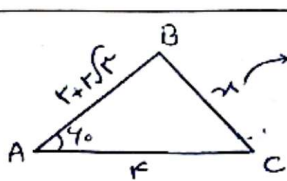
$$b^2 = a^2 + c^2 - 2ac \cos \hat{B} \rightarrow (13)^2 = (11)^2 + (10)^2 - 2 \times 11 \times 10 \times \cos \hat{B}$$

$$\rightarrow 169 = 121 + 100 - 220 \cos \hat{B} \rightarrow \cos \hat{B} = \frac{1}{2}$$



$$\sin \hat{B} = \frac{r}{2}$$

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$$a) \ x^2 = b^2 + c^2 - 2bc \cos \hat{A} \rightarrow x^2 = 14^2 + 14^2 + 18\sqrt{2} - 2 \times 14 \times 14 \times \frac{1}{2}$$

$$\rightarrow x^2 = 196 + 196 + 18\sqrt{2} - 196 = 196 \rightarrow x = 14$$

$$b) \ \frac{b}{\sin \hat{B}} = \frac{a}{\sin \hat{A}} \rightarrow \frac{r}{\sin \hat{B}} = \frac{r\sqrt{2}}{\frac{\sqrt{2}}{2}} \rightarrow \sin \hat{B} = \frac{r}{r} = 1 \rightarrow \hat{B} = 90$$

$$180 - (40 + 90) = 50 = \hat{C}$$

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$$a^r = b^r + C^r - r b C \times C \cdot \hat{S} \rightarrow r = r_{+1} - r \times r \times C \cdot \hat{S} \rightarrow C \cdot \hat{S} = \frac{1}{r}$$

$$(\overline{DE})^r = (\overline{AE})^r + (\overline{AD})^r - r_x(\overline{AE})(\overline{AD}) \times \cos \hat{A} \rightarrow (\overline{DE})^r = r_y + r_z - r_x r_y r_z \frac{1}{r}$$

$$(\overline{DE})^r = r_0 \rightarrow \overline{DE} = r \int_0$$

الف) $a^r = b^r + C^r - r b C \times C \cdot \hat{S} \hat{A} \rightarrow a^r = r\omega + \gamma r - r_x \omega \wedge x \times \frac{1}{r} = r\gamma \rightarrow a = v$

$$b) S = \frac{1}{r} \times b \times C \times \sin \hat{A} \rightarrow = \frac{1}{r} \times \omega \times r \times \frac{r}{r} = 1.0 r$$

$$\frac{(b+c)^r - a^r}{bc(C \cos \hat{A} + 1)} = \frac{a^r = b^r + c^r - rbc \times \cos \hat{A}}{bc(C \cos \hat{A} + 1)} \rightarrow \frac{\cancel{b^r} + \cancel{c^r} + rbc - \cancel{b^r} - \cancel{c^r} + rbc \times \cos \hat{A}}{bc(C \cos \hat{A} + 1)}$$

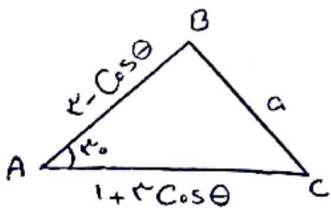
$$\rightarrow \frac{rbc(C \cdot \hat{S}A + 1)}{bc(C \cdot \hat{S}A + 1)} = r$$

$$\frac{a^r + b^r - c^r}{a + b - c} = a^r \rightarrow a^r + b^r - c^r = a^r + a^r(b - c) \rightarrow (b - c)(b^r + c^r + bc) = a^r(b - c)$$

طبق قانون سینوس
 $C \neq c$ است پس $C - c \neq 0$ پس سینوس آن را از دو طرف خط می‌زد.

$$b^r + c^r + bc = a^r \rightarrow b^r + c^r + bc = b^r + c^r - rbc \times C_9 \hat{A}$$

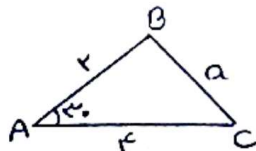
$$\rightarrow C_9 \hat{A} = \frac{bc}{-rbc} = \frac{-1}{r} \rightarrow \hat{A} = 110^\circ$$



$$S_D = r = \frac{1}{F} \times b \times C \times \sin \hat{A} \rightarrow \frac{1}{F} \times (r - C \cos \theta) (1 + r \cos \theta) \times \frac{1}{F} = r$$

$$\rightarrow -r \cos^2 \theta + \lambda \cos \theta + r = \lambda.$$

$\rightarrow -3\cos^2\theta + 8\cos\theta - 5 = 0 \rightarrow \cos\theta = 1$ مقبول، $\cos\theta = \frac{5}{3}$ غیر قابل قبول



$$a^r = b^r + c^r - rbc \times \cos \hat{A} \rightarrow a^r = 14 + 16 - 14 \times \frac{\sqrt{5}}{5}$$

$$a^r = r_0 - \lambda \sqrt{r} \rightarrow a = \sqrt{r_0 - \lambda \sqrt{r}}$$