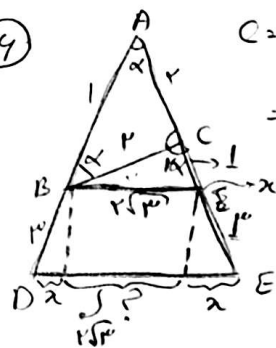


9



$$C = (\pi - \alpha)$$

$$\Rightarrow a^r = b^r + c^r - rbc \cos(\pi - \alpha) \Rightarrow 1 = 1 + 1 \cos \alpha \rightarrow \cos \alpha = \frac{-1}{1}$$

$$(B\alpha)^r = \frac{F+1}{A} - \frac{r}{A} \times \frac{1}{A} \times \frac{1}{A} \rightarrow \boxed{B\alpha = r\sqrt{p}}$$

$$\text{also: } \frac{1}{\varepsilon} = \frac{r\sqrt{p}}{DE} \rightarrow \boxed{DE = r\sqrt{p}}$$

$$\textcircled{r} a^r = b^r + c^r - rbc \cos A \rightarrow (BC)^r = 1^2 - r \times 1 \times 1 \times \frac{1}{r} \rightarrow \boxed{BC = 1}$$

$$\frac{1}{r} \times 1 \times 1 \times \frac{\sqrt{p}}{r} \rightarrow 1 \cdot \sqrt{p} \leftarrow \text{volume}$$

$$\frac{1}{r} \times ab \times \sin A$$

$$\textcircled{A} \frac{(b+c)^r - a^r}{bc(\cos A + 1)} = \frac{b^r + c^r + rbc - b^r - c^r + rbc \cos A}{bc(\cos A + 1)} \Rightarrow \frac{rbc(\cos A + 1)}{bc(\cos A + 1)} = \boxed{r}$$

$$\textcircled{9} \frac{a^r + b^r - c^r}{a + b - c} = a^r \Rightarrow \cancel{a^r} + b^r - c^r = \cancel{a} + ba^r - ca^r \Rightarrow (b-c)(b^r + bc + c^r) = a^r(b-c)$$

$$b^r + c^r - rbc \cos A$$

$$\cancel{b^r} + \cancel{c^r} + bc = \cancel{b^r} + \cancel{c^r} - rbc \cos A \rightarrow bc + rbc \cos A = 0 \rightarrow \boxed{bc(1 + r \cos A) = 0}$$

(I) $\cos A = -\frac{1}{r}$

$$(I) \Rightarrow 1 + r \cos A = 0 \rightarrow \boxed{\cos A = -\frac{1}{r}}$$

$$\textcircled{10} S = \frac{1}{r} \times bc \times \sin A \Rightarrow \frac{1}{r} \times (1 + r \cos \theta) \times (r - \cos \theta) \times \frac{1}{r} = r$$

$$r + 1 \cos \theta - r \cos \theta = 1 \rightarrow r^2 t^r - 1t + 1 = 0 \rightarrow t^r - 1t + 1 = 0 \rightarrow (t-0)(t-r) = 0$$

$$\cos \theta = \frac{1}{r}$$

$$\cos \theta = \frac{r}{r} = 1$$

$$a^r = F + 1 - r \times \frac{1}{r} \times \frac{1}{r} \rightarrow a^r = 1r$$

$$a^r = \frac{1r}{r} + \frac{1r}{r} - \frac{1r}{r} \times \frac{1}{r} \times \frac{1}{r} \rightarrow a^r = \frac{r}{r}$$