



$$1) A - \overline{BC} \text{ 이 단 한 개}$$

$$\frac{1}{2} \times \text{밑변} \times \text{높이}$$

$$\rightarrow \left(\frac{1}{2} \times \text{밑변} \times \text{높이} \right)$$

$$= \sqrt{\left(\frac{a+b+c}{2} \right) \left(\frac{-a+b+c}{2} \right) \left(\frac{a-b+c}{2} \right) \left(\frac{a+b-c}{2} \right)}$$

$$= \frac{1}{2} \times a \cdot h$$

$$\therefore h = \frac{2}{a} \times \frac{1}{4} \sqrt{(a+b+c)(-a+b+c)(a-b+c)(a+b-c)}$$

$$= \frac{\sqrt{(a+b+c)(-a+b+c)(a-b+c)(a+b-c)}}{2a}$$

$$2) \angle A = ?$$

$$S = \frac{1}{2} bc \sin A$$

$$\rightarrow \sin A = \frac{2S}{bc} = \frac{ah}{bc} = \frac{\sqrt{(a+b+c)(-a+b+c)(a-b+c)(a+b-c)}}{2bc}$$

$$\therefore A = \sin^{-1} \frac{\sqrt{(a+b+c)(-a+b+c)(a-b+c)(a+b-c)}}{2bc}$$