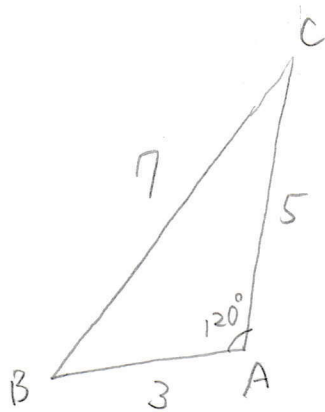


zukeito 17 ✓

$a = 7, b = 5, c = 3$  の  $\triangle ABC$  において、次のものを求めよ。

- (1)  $\cos A$
- (2) 面積  $S$
- (3) 内接円の半径  $r$



(1)  $c^2 = a^2 + b^2 - 2ab \cos A$

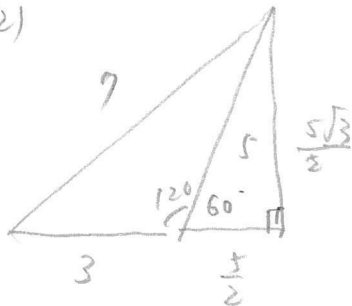
$$\cos A = \cos 120^\circ = -\frac{1}{2}$$

$$49 = 25 + 9 - 2 \cdot 3 \cdot 5 \cos A$$

$$30 \cos A = -15$$

$$\cos A = -\frac{1}{2}$$

(2)



$$3 \times \frac{5\sqrt{3}}{2} \times \frac{1}{2} = \frac{15\sqrt{3}}{4}$$

$$S = \frac{\sqrt{3}}{4} (a+b+c)$$

$$(3) \frac{1}{2} r (3+7+5) = \frac{15\sqrt{3}}{4}$$

$$\frac{15}{2} r = \frac{15\sqrt{3}}{4}$$

$$r = \frac{15\sqrt{3}}{4 \times 2} \times \frac{2}{15}$$

$$r = \frac{\sqrt{3}}{2}$$