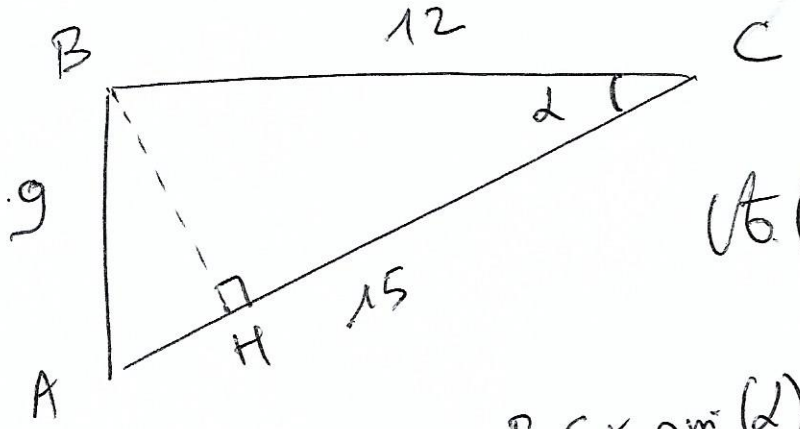

$$\mathcal{A}(ABC) = \frac{AC \times BH}{2}$$

$$BH = BC \times \sin(\alpha) = 12 \times \frac{9}{15} = 12 \times \frac{3}{5} = \frac{36}{5}$$

$$\mathcal{A}(ABC) = \frac{15 \times \frac{36}{5}}{2} = \frac{3 \times 36}{2} = 3 \times 18 = 54 \text{ cm}^2$$

$$= 54 \text{ cm}^2$$