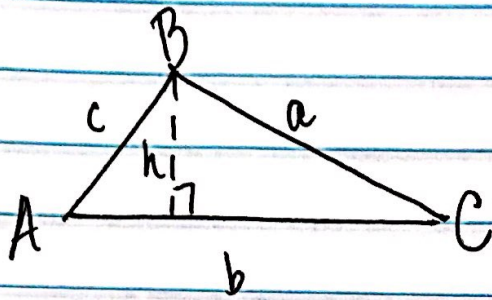


Areas of Oblique Triangles



$$\text{Area} = \frac{1}{2} b \cdot h$$

$$\text{Area} = \frac{1}{2} bc \sin A$$

$$\sin A = \frac{h}{c} \rightarrow h = c \sin A$$

ex: Find the area of $\triangle RST$, $s=13$, $t=15$, $R=71^\circ$

$$\begin{aligned} \text{Area} &= \frac{1}{2} st \cdot \sin R \\ &= \frac{1}{2} \cdot 13 \cdot 15 \cdot \sin 71^\circ \\ &= 92.19 \text{ units}^2 \end{aligned}$$

ex: Find the area of $\triangle HPV$, $h=5$, $p=7$, $v=11$

$$\begin{aligned} \text{Find } H: \quad 5^2 &= 7^2 + 11^2 - 2(7)(11) \cos H \\ H &\approx 19.69^\circ \end{aligned}$$

$$\text{Area} = \frac{1}{2} (7)(11) \sin 19.69^\circ$$

$$\text{Area} = 12.97 \text{ units}^2$$