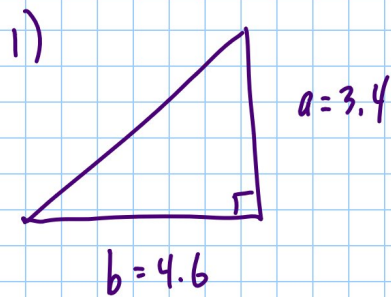


WARMUP - in our notes

What method would you use to solve each Δ .



SOH CAH TOA

OR

LAW OF SINES

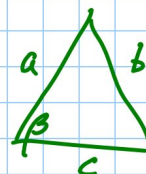
$$\underline{c^2 = a^2 + b^2 - 2ab \cos Y}$$

2) $a=3.5$ $b=6.3$ $c=7.1$

Law of Cosines

3) $a=5.3$ $c=7.5$ $\beta=63^\circ$

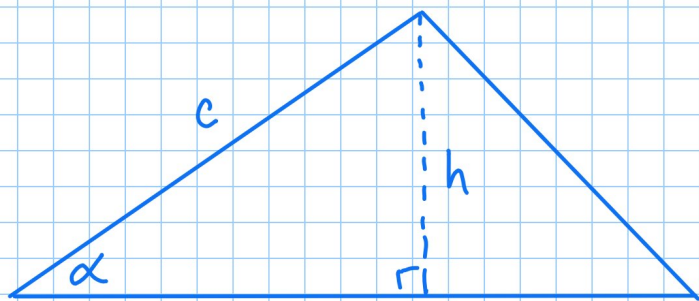
Law of Cosines



4) $\alpha=38^\circ$ $\beta=65^\circ$ $b=6.3$

Law of Sines

Section 7.4 Area of a Triangle



$$A = \frac{1}{2} b h$$

$$A = \frac{1}{2} b c \sin \alpha$$

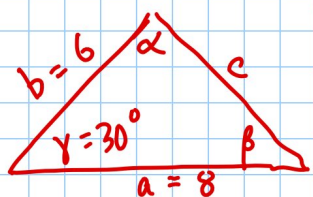
$$A = \frac{1}{2} a c \sin \beta$$

$$A = \frac{1}{2} a b \sin \gamma$$

$$\sin \alpha = \frac{h}{c}$$

$$\underline{c \sin \alpha = h}$$

ex: Find area if $a=8$, $b=6$, $\gamma=30^\circ$



$$A = \frac{1}{2} a b \sin \gamma$$

$$A = \frac{1}{2} \cdot 8 \cdot 6 \sin 30^\circ$$

$$A = 12$$

Heron's Formula \Rightarrow use if SSS

$$A = \sqrt{s(s-a)(s-b)(s-c)}$$

$$\text{where } s = \frac{1}{2}(a+b+c)$$

ex: $a = 4, b = 5, c = 7$

$$s = \frac{1}{2}(4+5+7) = 8$$

$$A = \sqrt{8(8-4)(8-5)(8-7)}$$

$$A = \sqrt{8 \cdot 4 \cdot 3 \cdot 1}$$

$$A = \sqrt{96} \approx 9.8$$

p561

3, 7, 11, 23, 27