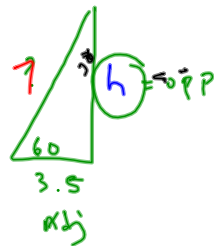
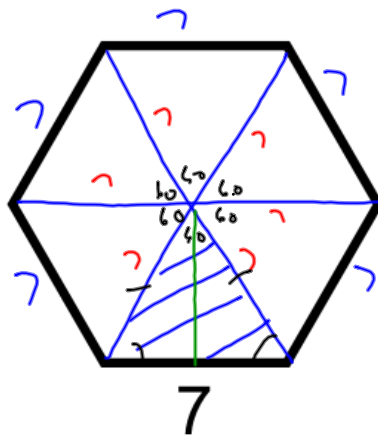


Law of Sines

4/10/18

Find the area of a regular hexagon with side lengths of 7.



$$\tan 60^\circ = \frac{h}{3.5}$$

$$h = 6.06$$

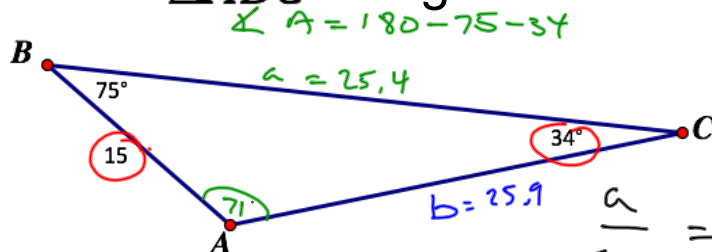
$$6 \left(\frac{1}{2} (7) (6.06) \right)$$

$$3 \cdot 7 \cdot 6.06 = 127.26$$

Law of Sines

$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

Solve $\triangle ABC$ using Law of Sines.



$$\frac{b}{\sin 75} = \frac{15}{\sin 34}$$

$$b = \frac{15 \sin 75^\circ}{\sin 34^\circ} = 25.9$$

$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

$$\frac{a}{\sin 71^\circ} = \frac{15}{\sin 34^\circ}$$

$$\frac{a}{\sin 71^\circ} = \frac{15}{\sin 34^\circ}$$

$$a = \frac{15 \cdot \sin 71^\circ}{\sin 34^\circ} = 25.4$$

In $\triangle ABC : \angle A = 108^\circ \angle B = 37^\circ b = 7.3$. Solve the triangle.

$$\angle C = 180 - 108 - 37 = 35$$

$$\frac{a}{\sin 108^\circ} = \frac{7.3}{\sin 37^\circ} = \frac{c}{\sin 35^\circ}$$

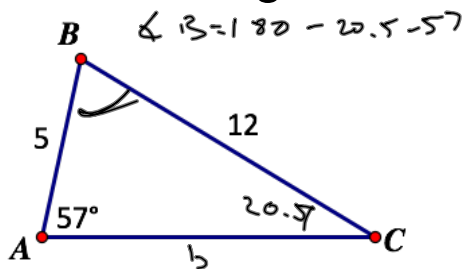
$$a = 7.3 \frac{\sin 108^\circ}{\sin 37^\circ} = 11.54$$

$$7.3 \sin 35^\circ = c$$

$$\frac{7.3 \sin 35^\circ}{\sin 37^\circ} = c$$

$$6.96 = c$$

Solve triangle ABC



$$\frac{b}{\sin 20.5^\circ} = \frac{12}{\sin 57^\circ}$$

$$b = \frac{12 \sin 12}{\sin 57}$$

$$b =$$

$$\frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c}$$

$$\frac{\sin 57^\circ}{12} = \frac{\sin C}{5}$$

$$5 \cdot \frac{\sin 57^\circ}{12} = \sin C$$

$$0.349 = \sin C$$

$$20.5^\circ = \sin^{-1}(0.349) = C$$

HW: p 887 #5-11