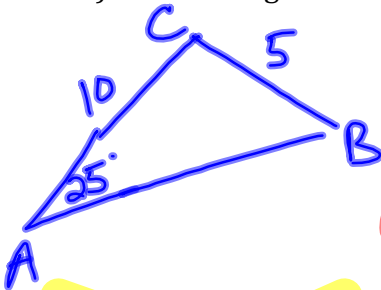


Day 2 on 13-4

Ex 1) Solve triangle ABC.  $A = 25^\circ$ ,  $a = 5$ ,  $b = 10$



SSA 1, 2, 0

$5 < 10$

2 or 0

$$\begin{aligned} B &= 58^\circ \\ C &= 97^\circ \\ c &= 11.7 \end{aligned}$$

$$\begin{array}{r} 180 \\ - 58 \\ - 25 \\ \hline \end{array}$$

$$\frac{\sin 25}{5} = \frac{\sin 97}{c}$$

$$c \sin 25 = 5 \sin 97$$

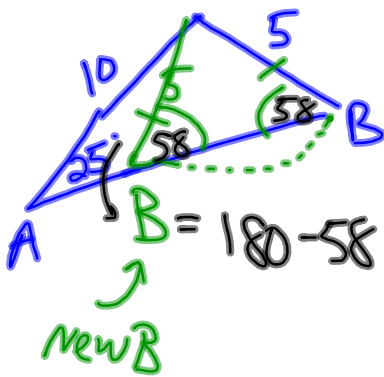
$$c = \frac{5 \sin 97}{\sin 25}$$

~~$$\frac{\sin 25}{5} = \frac{\sin B}{10}$$~~

$$5 \sin B = 10 \sin 25$$

$$\sin B = \frac{10 \sin 25}{5}$$

$$\sin^{-1}\left(\frac{10 \sin 25}{5}\right) = B = 58^\circ$$



Triangle #2

New B

180 - first  $\angle$  found in first D

$$B = 180 - 58 = 122^\circ$$

New B

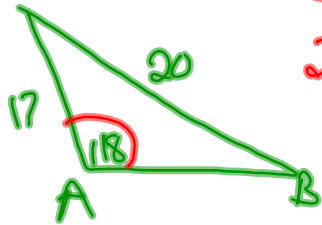
$$\begin{aligned} B &= 122^\circ \\ C &= 33^\circ \\ c &= 6.4 \end{aligned}$$

$$\begin{array}{r} 180 \\ - 122 \\ - 25 \\ \hline \end{array}$$

$$\frac{\sin 25}{5} = \frac{\sin 33}{c}$$

**Determine whether triangle ABC has no solution, one, or two. Then solve if possible.**

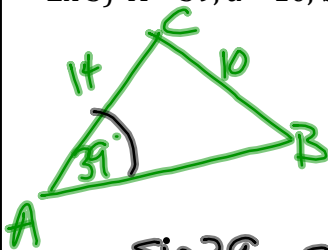
Ex 2)  $A = 118^\circ, a = 20, b = 17$



SSA  $\rightarrow$  0, 1, 2  
 $20 > 17$   
 only 1  $\Delta$   
 ... then solve!

Remember  
 SSS, SAS, ASA  
 or AAS  
 Only 1  $\Delta$   
 formed.  
 SSA -  
 0, 1, 2

Ex 3)  $A = 39^\circ, a = 10, b = 14$



SSA  $\rightarrow$  0, 1, 2  
 $10 < 14$   
2 or 0

$B = 62^\circ$   
 $C = 79^\circ$   
 $C = 15.6$

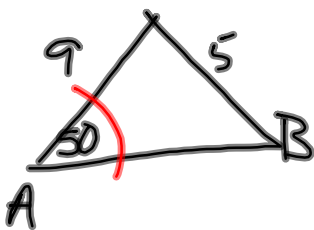
$180$   
 $- 39$   
 $- 62$

$$\frac{\sin 39^\circ}{10} = \frac{\sin 79^\circ}{C}$$

$$\frac{\sin 39^\circ}{10} = \frac{\sin B}{14} \quad B = 62^\circ$$

$\Delta \neq 2$

Ex 4)  $A = 50^\circ, a = 5, b = 9$



SSA  
 $5 < 9$   
 0 or 2

$B = 118^\circ$   
 $C = 23^\circ$   
 $C = 6.2$

$180 - 62 = 118$   
 $180 - 118 - 39 =$

$$\frac{\sin 39^\circ}{10} = \frac{\sin 23^\circ}{C}$$

$$\frac{\sin 50^\circ}{5} = \frac{\sin B}{9}$$

$B = \text{error}$

No Solution !!