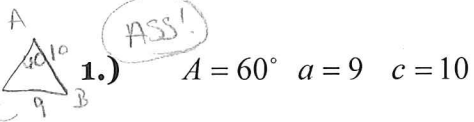


Solve each triangle. If necessary, round answers to the nearest hundredths.



1.) ASS!  $A = 60^\circ$   $a = 9$   $c = 10$

$$\frac{9}{\sin 60} = \frac{10}{\sin C}$$

$$\sin C = .9622\dots$$

$\angle C = 74.21^\circ \rightarrow \angle C_2 = 105.79^\circ$   
 $\angle B = 45.79^\circ$   $\angle B_2 = 14.21^\circ$

$$\frac{9}{\sin 60} = \frac{b}{\sin 45.79}$$

$$b = 7.45$$

$$\angle B = 45.79^\circ$$

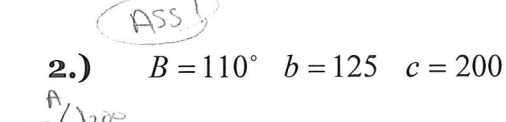
$$\angle C = 74.21^\circ$$

$$b = 7.45$$

$$\angle B_2 = 14.21^\circ$$

$$\angle C_2 = 105.79^\circ$$

$$b_2 = 2.55$$



2.) ASS!  $B = 110^\circ$   $b = 125$   $c = 200$

$$\frac{125}{\sin 110} = \frac{200}{\sin C}$$

$$\sin C = 1.503\dots$$

$C = \text{error}$

$\angle A =$   
 $\angle C =$   
 $a =$

NO SOLUTIONS

3.) AAS  $A = 24.3^\circ$   $C = 54.6^\circ$   $c = 2.68$

$$\frac{2.68}{\sin 54.6} = \frac{a}{\sin 24.3}$$

$$a = 1.35$$

$$\angle B = 101.1^\circ$$

$$a = 1.35$$

$$b = 3.23$$

$$\frac{2.68}{\sin 54.6} = \frac{b}{\sin 101.1}$$

$$b = 3.23$$

4.) ASS!  $C = 145^\circ$   $b = 4$   $c = 14$

$$\frac{14}{\sin 145} = \frac{4}{\sin B}$$

$$\sin B = .1638\dots$$

$$\angle B = 9.43^\circ$$

$$\angle A = 25.57^\circ$$

$$\angle A = 25.57^\circ$$

$$\angle B = 9.43^\circ$$

$$a = 10.53$$

~~$\angle A_2 = X$~~   
 ~~$\angle B_2 = 170.57^\circ$~~   
 ~~$a_2 =$~~

$$\frac{14}{\sin 145} = \frac{a}{\sin 25.57}$$

$$a = 10.53$$

ASS!

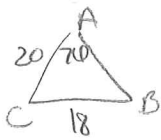
5.)  $A = 76^\circ$   $a = 18$   $b = 20$

$$\frac{18}{\sin 76} = \frac{20}{\sin B}$$

$$\sin B = 1.07$$

$$B = \emptyset$$

NO solution!



$$\angle B =$$

$$\angle C =$$

$$c =$$

$$\angle B_2 =$$

$$\angle C_2 =$$

$$c_2 =$$

ASS!

6.)  $A = 58^\circ$   $a = 11.4$   $b = 12.8$

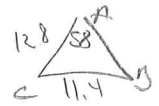
$$\frac{11.4}{\sin 58} = \frac{12.8}{\sin B}$$

$$\sin B = .9521 \dots$$

$$B = 72.21$$

$$\frac{11.4}{\sin 58} = \frac{c}{\sin 49.79}$$

$$c = 10.27$$



$$\angle B = 72.21^\circ$$

$$\angle C = 49.79^\circ$$

$$c = 10.27$$

$$\angle B_2 = 107.79^\circ$$

$$\angle C_2 = 14.21^\circ$$

$$c_2 = 3.30$$

$$\frac{11.4}{\sin 58} = \frac{c_2}{\sin 14.21}$$

$$c_2 = 3.299$$
  
$$3.30$$

AAS! 7.)  $A = 102.4^\circ$   $C = 16.7^\circ$   $a = 21.6$

$$\frac{21.6}{\sin 102.4} = \frac{c}{\sin 16.7}$$

$$c = 6.355$$
  
$$6.36$$

$$\frac{21.6}{\sin 102.4} = \frac{b}{\sin 60.9}$$

$$b = 19.32$$

$\angle B = 60.9^\circ$   
 $b = 19.32$   
 $c = 6.36$

ASS! 8.)  $C = 100^\circ$   $c = 125$   $b = 10$

$$\frac{125}{\sin 100} = \frac{10}{\sin B}$$

$$\sin B = .0787 \dots$$

$$\angle B = 4.52^\circ$$

$$\angle C = 75.48^\circ$$

$$\frac{125}{\sin 100} = \frac{a}{\sin 75.48}$$

$$a = 122.87$$

$\angle A = 4.52^\circ$   
 $\angle B = 75.48^\circ$   
 $a = 122.87$

~~$\angle A_2 = 175.48^\circ$   
 $\angle B_2 = 175.48^\circ$~~