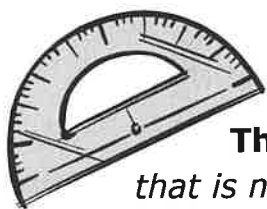


# ANSWER KEY!



## How to Draw a Triangle with Given Conditions

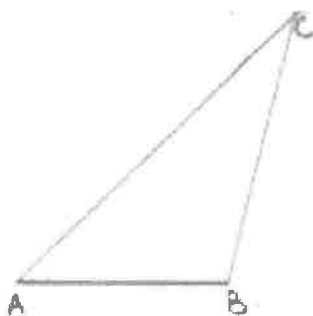
**The first way:** If you are told the measurement of 2 sides and an angle that is not between them, then this is known as: side, side, angle (S.S.A)

Example:  $AB = 3 \text{ cm}$      $\angle A = 45^\circ$      $BC = 4 \text{ cm}$

Step 1: Draw a line 3 cm in length and label the endpoints as A and B.

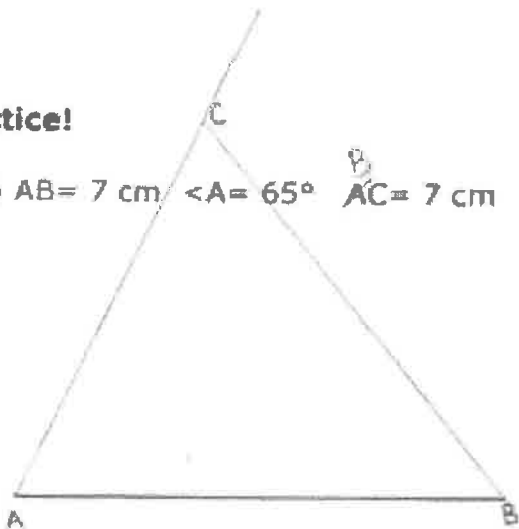
Step 2: Use a protractor and draw a 45 degree angle from point A.

Step 3: Draw a line 4 cm in length from point B to the line you just drew and label where they intersect as point C.

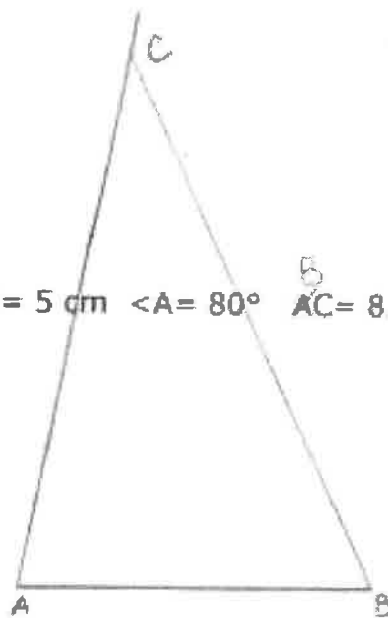


### Practice!

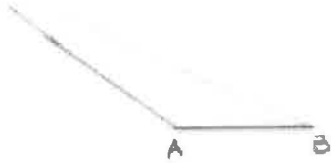
1)  $AB = 7 \text{ cm}$      $\angle A = 65^\circ$      $AC = 7 \text{ cm}$



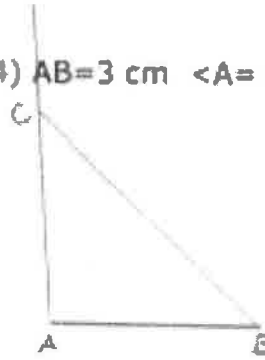
2)  $AB = 5 \text{ cm}$      $\angle A = 80^\circ$      $AC = 8.5 \text{ cm}$



3)  $AB=2\text{ cm}$   $\angle A=140^\circ$   $AC=6\text{ cm}$



4)  $AB=3\text{ cm}$   $\angle A=95^\circ$   $AC=4.5\text{ cm}$



**The second way:** If you are told the measurements of *two angles and the side between* them, then this is known as: angle, side, angle (A.S.A)

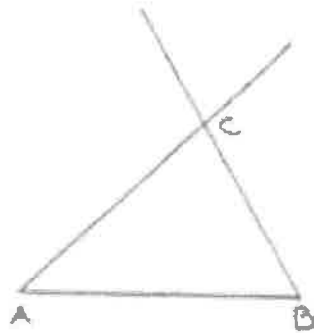
Example:  $\angle A=45^\circ$   $AB=4\text{ cm}$   $\angle B=60^\circ$

Step 1: Draw a line 4 cm in length and label the endpoints as A and B.

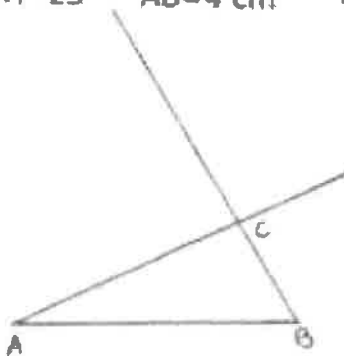
Step 2: Use a protractor and draw a 45 degree angle from point A.

Step 3: Use a protractor and draw a 60 degree angle from point B.

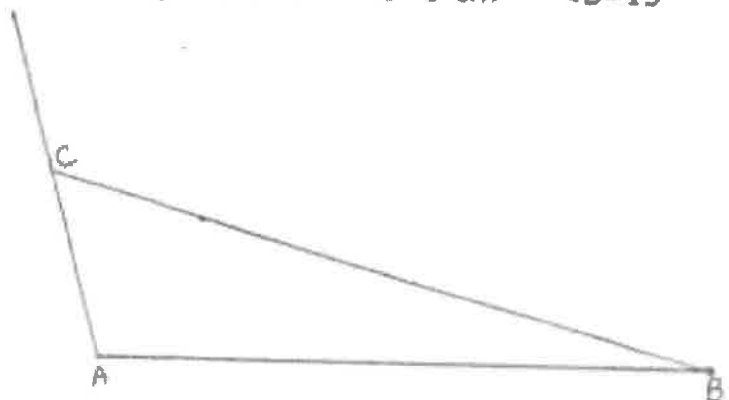
Step 4: Label where your two lines intersect as point C.

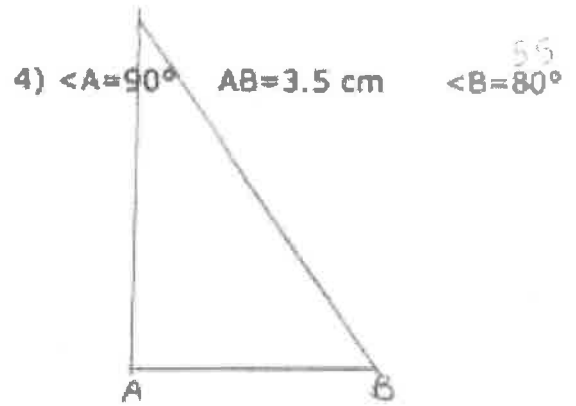
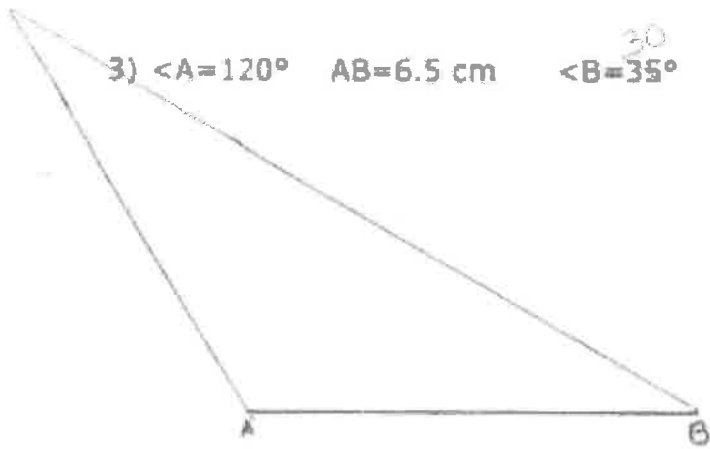


1)  $\angle A=25^\circ$   $AB=4\text{ cm}$   $\angle B=60^\circ$



2)  $\angle A=105^\circ$   $AB=9\text{ cm}$   $\angle B=15^\circ$





**The third way:** If you are told the measurements of all *three sides* of a triangle, then this is known as: side, side, side (S.S.S)

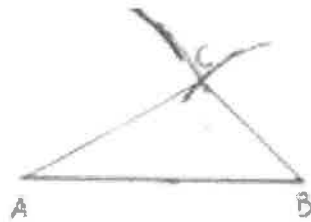
Example:  $AB = 4$  cm  $AC = 3$  cm  $BC = 2$  cm

Step 1: Draw a line 4 cm in length and label the endpoints as A and B.

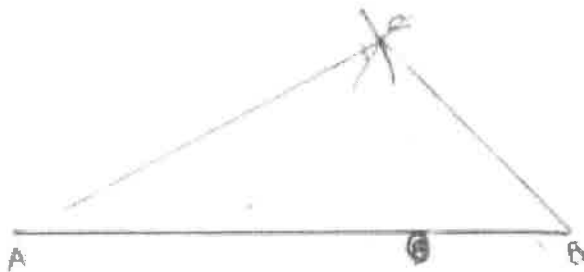
Step 2: Open your compass 3 cm wide, place the pin of the compass on point A, and draw an arc.

Step 3: Open your compass 2 cm wide, place the pin of the compass on point B, and draw an arc.

Step 4: Where the two arcs intersect is point C. Connect point A to point C and point B to point C.



1)  $AB = 8$  cm  $AC = 6$  cm  $BC = 4$  cm



2)  $AB = 1.5$  cm  $AC = 4$  cm  $BC = 7.5$  cm

