

Notes: Day 4 Law of Sines

In **ANY** triangle, if you know 2 angles and a side (**ASA** or **AAS**), then you can find the missing sides by using the **Law of Sines**.

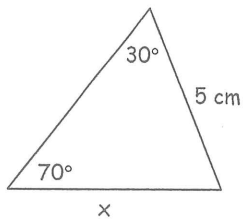
Law of Sines

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

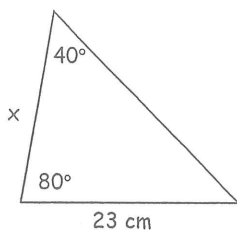
a, b, and c are the sides opposite angles A, B, and C

1-4 Find the value of x.

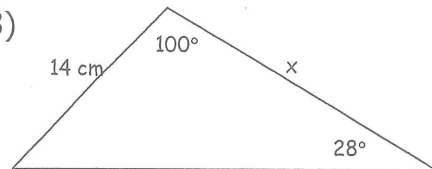
1)



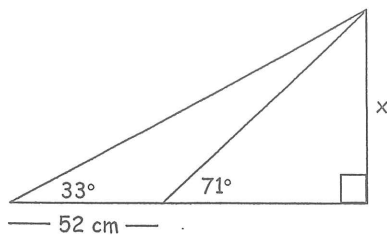
2)



3)



4)



5) The measures of 2 angles of a triangle are 100° and 50° . The length of the longest side is 12 cm. Find the length of the shortest side.

6) The bearing from A to C is 240° while the bearing from B to C is 310° . B is 42 m due south of A. Find the distance from A to C.

7) The bearing from Stephen to Morgan is 230° . Travis is 26m due west of Stephen. The bearing from Travis to Morgan is 150° . Find the distance from Travis to Morgan.

8) The \angle of elevation from Taylor's feet to the top of a tree is 72° . Taylor walks backwards 17 feet and now the \angle of elevation from Taylor's feet to the top of the tree is 54° . How tall is the tree?