

Notes: Day 5 Law of Cosines

In **ANY** triangle, if you know all 3 sides (**SSS**) or 2 sides and the included angle (**SAS**), then you can find the missing angles or side by using the **Law of Cosines**.

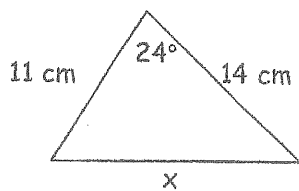
Law of Cosines

$$c^2 = a^2 + b^2 - 2ab\cos C$$

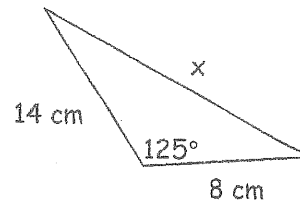
a, b, and c are the sides of the Δ and c is the side opposite $\angle C$

1-4 Find the value of x.

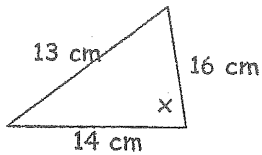
1)



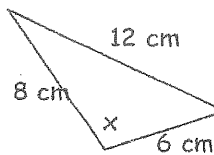
2)



3)



4)



5) The lengths of the sides of a triangle are 7 cm, 9cm, and 14 cm. Find the measure of the largest angle.

6) The bearing from A to B is 50° and the bearing from B to C is 110° . The distance from A to B is 4 m and the distance from B to C is 15 m. Find the distance from A to C.

7) A regular pentagon is inscribed in a circle with a radius of 14cm. Find the perimeter of the regular pentagon.

8) Tony runs 25 miles on a bearing of 220° , then walks 8 miles on a bearing of 300° . How far is Tony from where he started?