

Name: _____

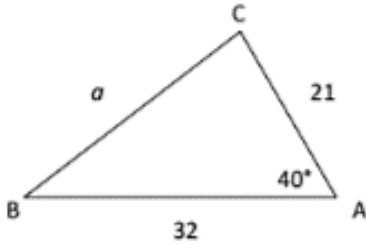
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Mr. Valentino

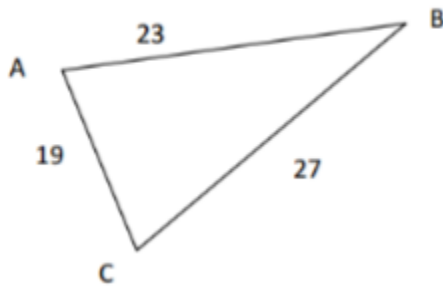
Aim: How can we use the law of cosines to find angles?

Do Now: Find the missing side of $\triangle ABC$ to the nearest hundredth.



We can also use the law of cosines to find missing angles

1. Find the measure of $\angle A$ to the nearest hundredth.



2. In $\triangle ABC$, if $a = 4$, $b = 3$ and $c = 3$, then the value of $\cos(A)$ is

A. $2/3$

B. $1/9$

C. $-1/9$

D. $-2/3$

3. Peter (P) and Jamie (J) have computer factories that are 132 miles apart. They both ship their completed computer parts to Diane (D). Diane is 72 miles from Peter and 84 miles from Jamie. Using points D , J , and P to form a triangle, find $m\angle PDJ$ to the nearest tenth of a degree.

4. The lengths of the sides of a triangle are 6 cm, 11 cm, and 7 cm. Determine, to the *nearest tenth of a degree*, the measure of the largest angle of the triangle

5. The beam of a searchlight situated at an offshore point W sweeps back and forth between shore points A and B . Point W is located 12 kilometers from A and 25 kilometers from B . The distance between A and B is 29 kilometers. Find the measure of $\angle AWB$ to the *nearest degree*.

6. In triangle ABC , if $a = 10$, $b = 7$, and $c = 8$, then the value of $\cos C$ is

1) $\frac{64}{9}$

3) $\frac{23}{32}$

2) $\frac{13}{112}$

4) $\frac{17}{28}$

7. During a training exercise in the Mojave Desert, two military vehicles left the base camp at the same time, one traveling at an average speed of 25 miles per hour and the other at an average speed of 50 miles per hour. Each vehicle traveled along a level, straight route. If the exercise requires the two vehicles to be 65 miles apart after traveling for 1 hour, what must the angle between the two routes be, to the *nearest degree*?