Day 18 – 8.6 HW (Law of Cosines)

p. 529 5-8, 13-15, 19-21

Do you UNDERSTAND?

MATHEMATICAL PRACTICES

5. Error Analysis In $\triangle ABC$, $AC = 15$ ft, $BC = 12$ ft, and $m\angle C = 32$. A student solved for c for $a = 12$ ft, $b = 15$ ft, and $m\angle C = 32$. What was the error?

$C = 12^2 + 15^2 - 2(12)(15)\cos 32°$
$C = 369 - 360 \cos 32°$
$C = 63.7$

6. Reasoning Explain how you would find the measure of the largest angle of a triangle if given the measures of the three side lengths.

Use the information given to solve.

7. In $\triangle QRS$, $m\angle R = 38$, $QR = 11$, and $RS = 16$. To the nearest tenth, what is the length of $\overline{QS}$?

**8.** In $\triangle WXY$, $WX = 20.4$, $XY = 16.4$, and $WY = 25.3$. To the nearest tenth, what is $m\angle W$?

(Only 13-15)

Use the Law of Cosines to find the values of x and y. Round to the nearest tenth.

11.

11, 14, 19, $x°$, $y°$

12.

5, 3, 4, $x°$, $y°$

13.

80, 40°, 78, x, $y°$

14.

9, 27°, 5, x, $y°$
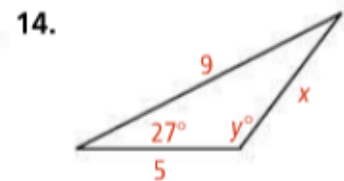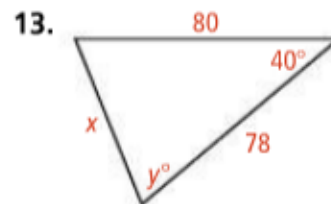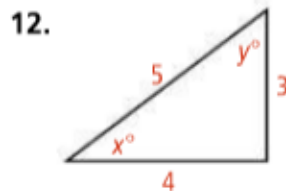
Use the Law of Cosines to solve each problem.

See Problem 3.

15. Baseball After fielding a ground ball, a pitcher is located 110 feet from first base and 57 feet from home plate as shown in the figure at the right. To the nearest tenth, what is the measure of the angle with its vertex at the pitcher?

pitcher, 110 ft, 1st Base, 57 ft, 90 ft, Home Plate
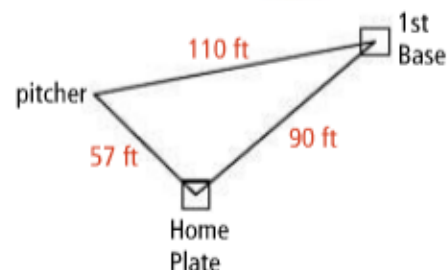
16. Zipline One side of a ravine is 14 ft long. The other side is 12 ft long. A 20 ft zipline runs from the top of one side

19-21 ONLY

For each triangle shown below, determine whether you would use the Law of Sines or Law of Cosines to find the value of x. Then find the value of x to the nearest tenth.
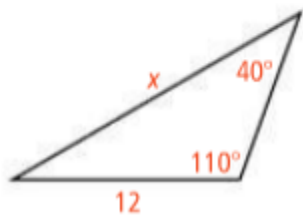
19.

8   6
40°   x°

20.

x   7
48°
10

21.

x   40°
110°
12

22.

27   x
36°
23