



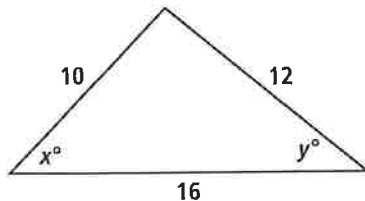
Name _____

8-4 Additional Practice

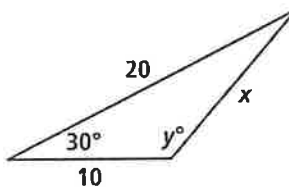
The Law of Cosines

For Exercises 1–4, use the Law of Cosines to find the values of x and y . Round to the nearest tenth.

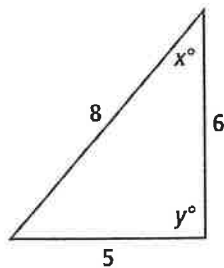
1.



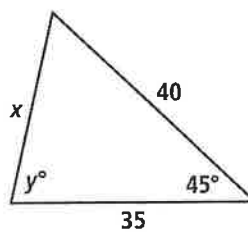
2.



3.



4.



5. William calculated the measure of the largest angle for a triangle with sides 8, 11, and 13. What mistake did he make? What is the correct angle measure?

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

$$8^2 = 13^2 + 11^2 - 2(13)(11) \cos C$$

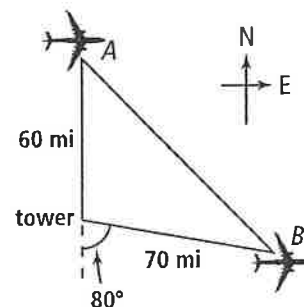
$$64 = 169 + 121 - 286 \cos C$$

$$64 - (169 + 121) = -286 \cos C$$

$$\frac{226}{286} = \cos C$$

$$m\angle C \approx 37.8^\circ$$

6. Two planes are flying at the same altitude. One airplane is 60 miles due north of the control tower. Another airplane is located 70 miles from the tower at a heading of 80° east of south. To the nearest tenth of a mile, how far apart are the two airplanes?

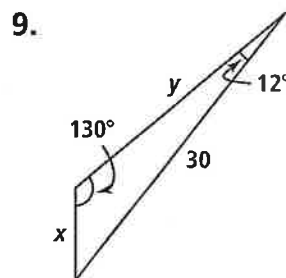
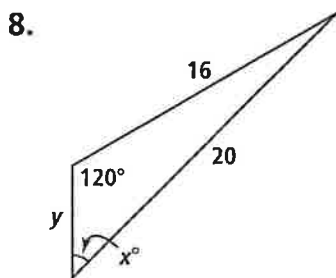
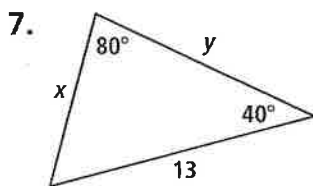
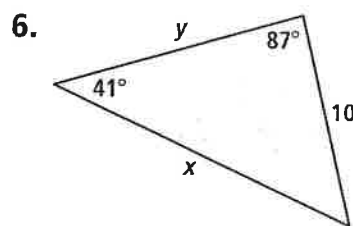
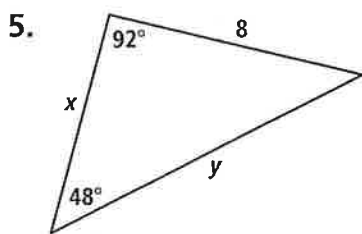
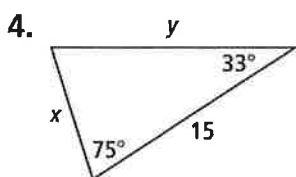
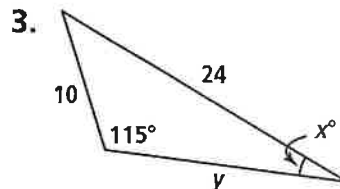
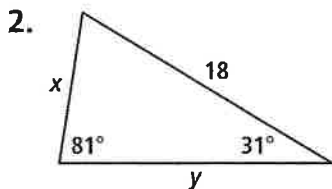
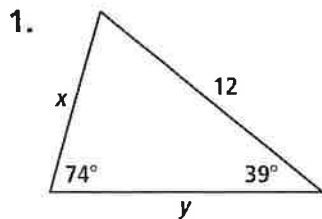


Name _____

8-3 Additional Practice

The Law of Sines

For Exercises 1–9, use the Law of Sines to find the values of x and y . Round to the nearest tenth.

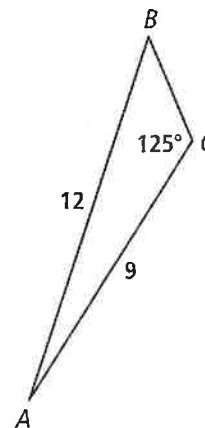


10. To find the measure of $\angle A$, Shannon made the calculations shown. What mistake did she make? What is the correct measure of $\angle A$?

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

$$\frac{\sin A}{9} = \frac{\sin 125^\circ}{12}$$

$$m\angle A = \sin^{-1}\left(\frac{9 \sin 125^\circ}{12}\right) \approx 37.9^\circ$$



11. The diagram shows three streets that form the perimeter of a park. How far is it from the corner of Oak and Ridgewood to the corner of Oak and Savannah? Round to the nearest tenth of a yard.

