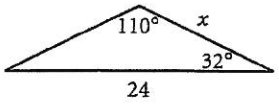
NAME AK CLASS DATE

Practice Masters Level B

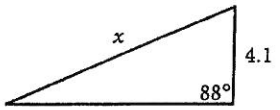
10.5 The Law of Cosines

In Exercises 1 and 2, which rule should you use, the law of sines or the law of cosines, to find each indicated measurement? Explain your reasoning.

1. 

AAS → Law of Sines

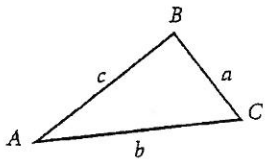
X = 15.7

2. 

SAS → Law of Cosines

X = 8.9

In Exercises 3–5, find the indicated measures. Round your answers to the nearest tenth.

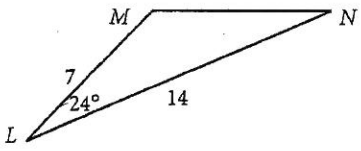


3. $m\angle C = 52°$, $b = 10.3$, $a = 6.1$, $c = ?$ 8.1

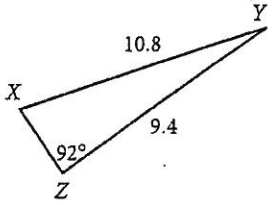
4. $m\angle C = 68°$, $m\angle A = 28°$, $b = 24$, $c = ?$ 22.3

5. $a = 3.2$, $b = 6.5$ $c = 5.0$, $m\angle C = ?$ 48.6°

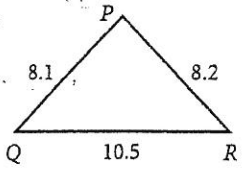
In Exercises 6–9, use the law of cosines and/or the law of sines to solve each triangle. Round answers to the nearest tenth.

6. 

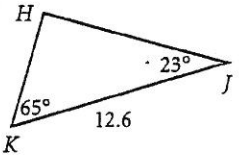
l = 8.1
M = 135.5°
N = 20.5°

7. 

X = 60.5°
Y = 27.5°
y = 5

8. 

R = 49.5°
Q = 50.3°
P = 80.2°

9. 

j = 4.9
k = 11.4
H = 92°

10. Two trains depart from the same station on tracks that form a 65° angle. Train *A* leaves at noon and travels at an average speed of 52 miles per hour. Train *B* leaves at 1 P.M. and travels at an average speed of 60 miles per hour. How far apart are the trains at 3 P.M.? 151.3 miles