NAME:_____

1. Given a triangle with $b = 2$, $c = 5$, and $m\angle A = 58$, what is the length of a? Round the answer to two decimal places.

   [A] 4.87 [B] 6.29 [C] 4.29 [D] 3.74

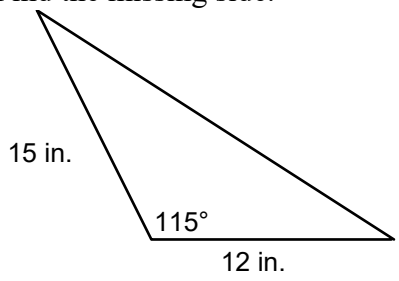
2. Given a triangle with $b = 3$, $c = 9$, and $m\angle A = 118$, what is the length of a? Round the answer to two decimal places.

   [A] 10.13 [B] 10.74 [C] 8.04 [D] 6.96

3. Given a triangle with $b = 3$, $c = 4$, and $A = 62°$, what is the length of a? Round the answer to two decimal places.

4. Use a calculator to find the value of c in a triangle if $a = 20$ mm, $b = 25$ mm, and $m\angle C = 75°$. Round your answer to the nearest hundredth.

5. Find the missing side. [A] 15.87 in. [B] 22.83 in. [C] 19.21 in. [D] 521.14 in.



NAME:_____

6. Solve triangle ABC given that $a = 10$, $b = 15$, and $c = 21$.

7. Solve triangle ABC given that $a = 16$, $b = 13$, and $c = 12$.

8. Use the information in the chart to find the number of degrees in the angle at Kansas City between a direct route to Boston and a direct route to Miami.

Air Distances in Miles Between U.S. Cities

	Boston	Kansas City	Miami
Boston	–	1251	1255
Kansas City	1251	–	1241
Miami	1255	1241	–

9. In ΔABC, $AB = 7.2$, $AC = 4.8$, $m\angle A = 84.1$. Find the measure of angles B and C to the nearest tenth of a degree by using the Law of Cosines to find BC and then the Law of Sines to find angles B and C. What do you notice about the sum of the angles?

10. In ΔABC, $AB = 9$, $BC = 14.1$, $AC = 12.8$. Find the measure of angle A to the nearest tenth of a degree
A. in one step by using the Law of Cosines.
B. in two steps using the Law of Cosines to find angle B and then the Law of Sines to find angle A.

[1] C

[2] B

[3] 3.71

[4] 27.68 mm

[5] B

[6] $A = 26.0°$, $B = 41.2°$, $C = 112.7°$

[7] $A = 79.5°$, $B = 53.0°$, $C = 47.5°$

[8] 60.47°

[9] $m\angle B = 35.6$, $m\angle C = 60.9$; the angles add up to $180.6°$, which is greater than the sum of the angles of any triangle.

[10] A. 78.5° B. 78.4°