Secondary Math 3 Worksheet 11.4 Name: _____

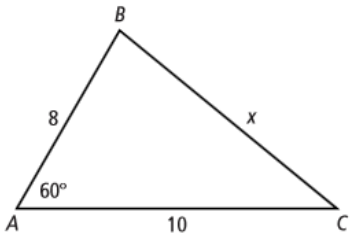
Trigonometric Functions & Applications Unit

Law of Cosines

Period: _____

Use the Law of Cosines to find *x* to the nearest tenth.

1-



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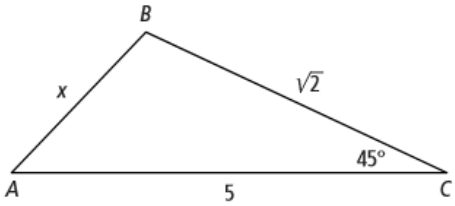

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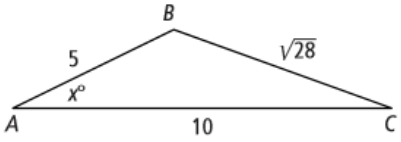

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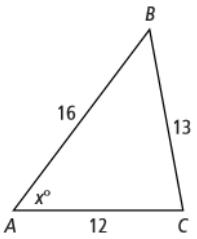


In ΔXYZ, find each value to the nearest tenth.

5- $x = 4\ cm,\ y = 7cm,\ z = 10\ cm.$
$Find\ m\angle Y.$

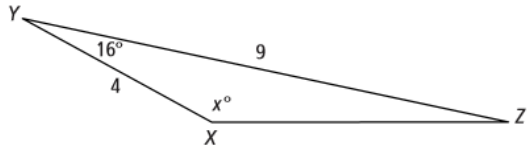
6- $x = 32\ in,\ y = 79\ in,\ m\angle Z = 63°$
$Find\ z.$

7- $x = 5\ ft,\ z = 9\ ft,\ m\angle Y = 92°$
$Find\ y.$

8- $x = 14\ m,\ y = 16\ m,\ z = 18\ m.$
$Find\ m\angle X.$

Use the Law of Cosines and the Law of Sines to find all the remaining sides and angles in ΔXYZ.

9-



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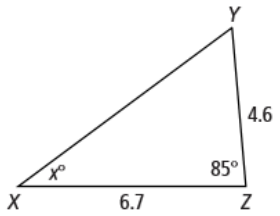

11- $m\angle X = 149°, y = 8,\ z = 7$

12- $x = 9,\ y = 13,\ z = 17$

13- The sides of a triangular lot are 158 ft, 173 ft, and 191 ft. Find the measure of the angle opposite the longest side to the nearest tenth of a degree.

14- A car travels 50 miles due west from point A. At point B, the car turns and travels at an angle of 35° north of due east. The car travels in this direction for 40 mi, to point C. How far is point C from point A?

15- The length of the adjacent sides of a parallelogram are 54 cm and 78 cm. The larger angle measures 110°. What is the length of the longer diagonal? Round your answer to the nearest centimeter.