7.4

2023-2024

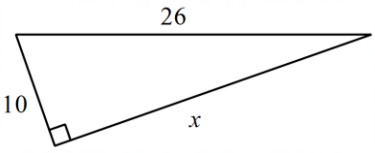
SM3 Law of Cosines

SCORE: /

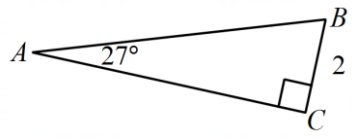
Name _____ Date _____ Period _____

Find the missing side. Round your answers to the nearest tenth.

1. Find x

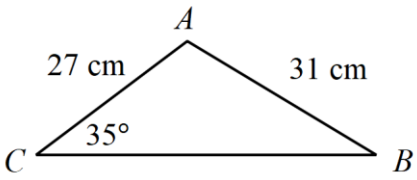


2. Find $\overline{AB}$

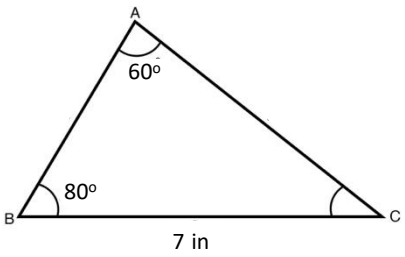


Find each measurement indicated, using the law of sines. Round your answers to the nearest tenth.

3. Find $m\angle B$.

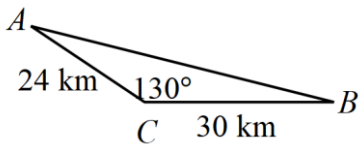


4. Find $\overline{AC}$.

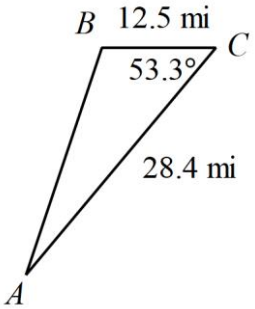


Find each measurement indicated. Round your answers to the nearest tenth.

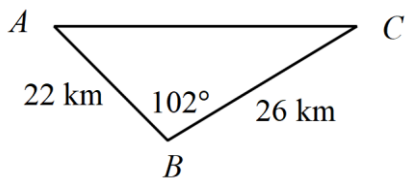
5. Find $\overline{AB}$.



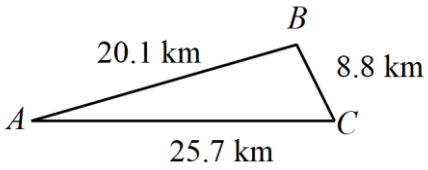
6. Find $\overline{AB}$.



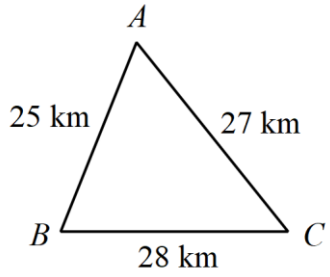
7. Find $\overline{AC}$.



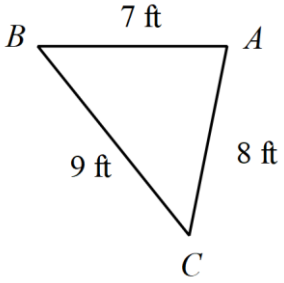
8. Find $m\angle B$.



9. Find $m\angle B$.

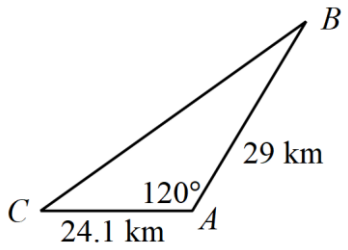


10. Find $m\angle A$.



Solve each triangle. Round your answers to the nearest tenth.

11.

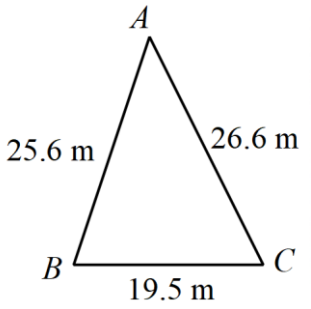


$m\angle A =$ _____ $a =$ _____

$m\angle B =$ _____ $b =$ _____

$m\angle C =$ _____ $c =$ _____

12.



$m\angle A =$ _____ $a =$ _____

$m\angle B =$ _____ $b =$ _____

$m\angle C =$ _____ $c =$ _____

13. $m\angle C = 118°, b = 18$ km, $a = 17$ km

$m\angle A =$ _____ $a =$ _____

$m\angle B =$ _____ $b =$ _____

$m\angle C =$ _____ $c =$ _____

14. $c = 9$ km, $b = 6$ km, $a = 14$ km

$m\angle A =$ _____ $a =$ _____

$m\angle B =$ _____ $b =$ _____

$m\angle C =$ _____ $c =$ _____

15. You and a friend hike 1.3 kilometers due west from a campsite. AT the same time, two other friends hike 1.7 km at a heading of N17°W from the campsite. To the nearest tenth of a km, how far apart are the two groups?

16. A 25-ft water slide has a 10.8-ft ladder which meets the slide at a $100°$ angle. To the nearest tenth, what is the distance between the end of the slide and the bottom of the ladder?

Factor each completely.

17. $x^2 - 16x + 64$

18. $2b^2 - 16b + 30$