Unit 3A – Day 8 Homework- 5.6

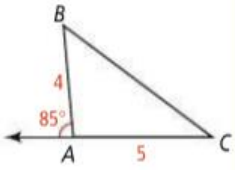
328 #3-4, 9-17 odd, 18, 21-23, 30-31

Lesson Check

Do you know HOW?

Use $\triangle ABC$ for Exercises 1 and 2.

1. Which side is the longest?
2. Which angle is the smallest?
3. Can a triangle have sides of lengths 4, 5, and 10? Explain.

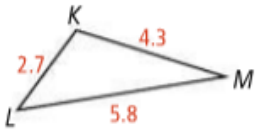


Do you UNDERSTAND? MATHEMATICAL PRACTICES

4. **Error Analysis** A friend tells you that she drew a triangle with perimeter 16 and one side of length 8. How do you know she made an error in her drawing?
5. **Reasoning** Is it possible to draw a right triangle with an exterior angle measuring 88? Explain your reasoning.

For Exercises 9–14, list the angles of each triangle in order from smallest to largest. See Problem 2.

9.



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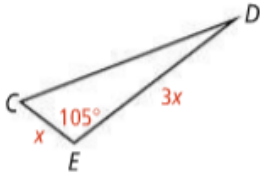

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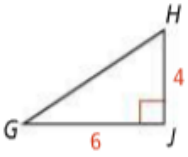


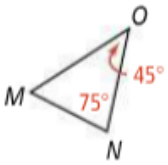
12. $\triangle ABC$, where $AB = 8$, $BC = 5$, and $CA = 7$

13. $\triangle DEF$, where $DE = 15$, $EF = 18$, and $DF = 5$

14. $\triangle XYZ$, where $XY = 12$, $YZ = 24$, and $ZX = 30$

For Exercises 15–20, list the sides of each triangle in order from shortest to longest. See Problem 3.

15.



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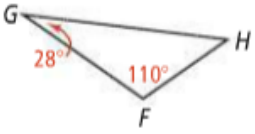
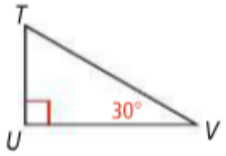


17.



18. $\triangle ABC$, with $m\angle A = 90$, $m\angle B = 40$, and $m\angle C = 50$

19. $\triangle DEF$, with $m\angle D = 20$, $m\angle E = 120$, and $m\angle F = 40$

20. $\triangle XYZ$, with $m\angle X = 51$, $m\angle Y = 59$, and $m\angle Z = 70$

Can a triangle have sides with the given lengths? Explain. See Problem 4.

21. 2 in., 3 in., 6 in.

22. 11 cm, 12 cm, 15 cm

23. 8 m, 10 m, 19 m

Algebra **The lengths of two sides of a triangle are given. Find the range of possible lengths for the third side.**

27. 8 ft, 12 ft

28. 5 in., 16 in.

29. (

30. 18 m, 23 m

31. 4 yd, 7 yd

32. :