

Can a triangle be formed from the given lengths? (Yes or No)

- | | | |
|------------------------|--------------------------|------------------------|
| 1. 12 ft. 16 ft. 20 ft | 2. 8 in., 16 in., 24 in. | 3. 2 in., 5 in., 9 in. |
| 4. 11 m. 12 m. 13 m | 5. 2 cm, 7 cm, 4 cm | 6. 51 m. 61 m. 71 m |
| 7. 21 cm, 40 cm, 20 cm | 8. 24 ft. 14 ft. 4 ft | 9. 66 cm, 21 cm, 45 cm |
| 10. 6, 8, 10 | 11. 2, 3, 4 | 12. 9, 3, 5 |

Sheet
5.3

The lengths of two sides of a triangle are given.

What do you know about the third side? (HAS to be between what 2 lengths?)

- | | | |
|-------------------------|--------------------------|-------------------------|
| 13. 6 ft, 7ft _____ | 14. 4.5 cm, 5.4 cm _____ | 15. 6 in., 6 in. _____ |
| 16. 5 m, 2 m _____ | 17. 6 ft, 3 ft _____ | 18. 8 cm, 17 cm _____ |
| 19. 14.5 m, 7.2 m _____ | 20. 23 cm, 14 cm _____ | 21. 5.5 m, 6.25 m _____ |

22. Two sides of a triangle have sides 7 and 18. The length of the third side must be greater than _____ and less than _____

- [A] 7, 18 [B] 6, 19 [C] 11, 25 [D] 10, 26

23. Two sides of a triangle have sides 5 and 13. The length of the third side must be greater than _____ and less than _____

- [A] 5, 13 [B] 7, 19 [C] 4, 14 [D] 8, 18

24. Two sides of a triangle have sides 11 and 24. The length of the third side must be greater than _____ and less than _____

- [A] 13, 35 [B] 11, 24 [C] 10, 25 [D] 12, 36

25. What is the range of lengths for the third side (x) of a triangle where the other two sides are 4 inches and 7 inches long?

- A $3 < x < 7$
 B $3 < x < 11$
 C $4 < x < 7$
 D $4 < x < 11$

26. List the sides of $\triangle ABC$ in order from shortest to longest $m\angle A = 13x - 2$, $m\angle B = 2x - 13$, and $m\angle C = 85 - 4x$

- [A] \overline{AB} , \overline{AC} , \overline{BC} [B] \overline{AC} , \overline{AB} , \overline{BC}
 [C] \overline{BC} , \overline{AB} , \overline{AC} [D] \overline{AC} , \overline{BC} , \overline{AB}

27. List the sides of $\triangle ABC$ in order from shortest to longest $m\angle A = 9x - 5$, $m\angle B = 5x - 9$, and $m\angle C = 74 - 4x$

- [A] \overline{BC} , \overline{AC} , \overline{AB} [B] \overline{AC} , \overline{AB} , \overline{BC}
 [C] \overline{AB} , \overline{AC} , \overline{BC} [D] \overline{AB} , \overline{BC} , \overline{AC}

28. A welder is building a triangle from metal rods. One rod is 52 inches long and another is 24 inches long. Which of the four rods listed below could be used?

- A the one 24 inches long
 B the one 28 inches long
 C the one 38 inches long
 D the one 77 inches long