

Worksheet 15.3A: Triangle Inequalities

Date _____ Period _____

State if the three numbers can be the measures of the sides of a triangle.

1) 7, 9, 14

2) 10, 8, 19

3) 15, 9, 5

4) 2, 6, 6

5) 9, 16, 19

6) 9, 8, 17

7) 32, 59, 26

8) 59, 49, 39

Two sides of a triangle have the following measures. Find the range of possible measures for the third side.

9) 9, 5

10) 6, 9

11) 14, 15

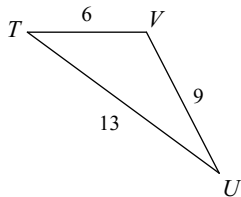
12) 16, 9

13) 27, 50

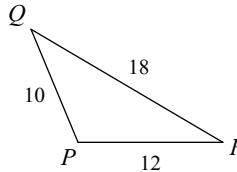
14) 37, 28

Order the angles in each triangle from smallest to largest.

15)



16)



17) In $\triangle DCB$

$$CB = 15$$

$$DB = 18$$

$$DC = 9$$

18) In $\triangle STU$

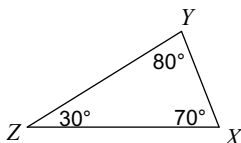
$$TU = 25$$

$$SU = 22$$

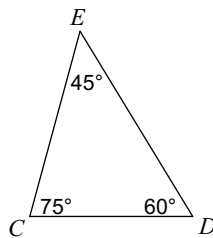
$$ST = 25$$

Order the sides of each triangle from shortest to longest.

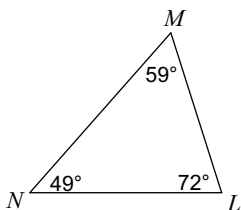
19)



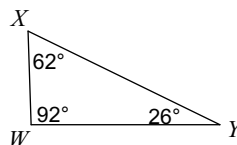
20)



21)



22)



23) In $\triangle RQP$

$$m\angle R = 122^\circ$$

$$m\angle Q = 26^\circ$$

$$m\angle P = 32^\circ$$

24) In $\triangle SRQ$

$$m\angle S = 60^\circ$$

$$m\angle R = 91^\circ$$

$$m\angle Q = 29^\circ$$

25) In $\triangle WXY$

$$m\angle W = 40^\circ$$

$$m\angle X = 82^\circ$$

$$m\angle Y = 58^\circ$$

26) In $\triangle NML$

$$m\angle N = 44^\circ$$

$$m\angle M = 74^\circ$$

$$m\angle L = 62^\circ$$