

# Geometry 5-2 Relationship between Side length and Angle measurement

Name: \_\_\_\_\_

Time> Start: \_\_\_\_\_ Finish: \_\_\_\_\_

Total Time = \_\_\_\_\_

Figure 1

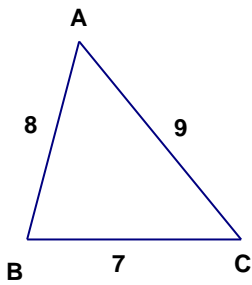


Figure 2

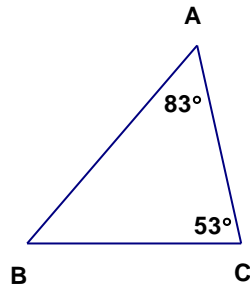


Figure 3

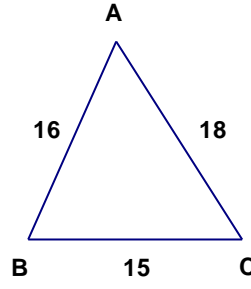


Figure 4

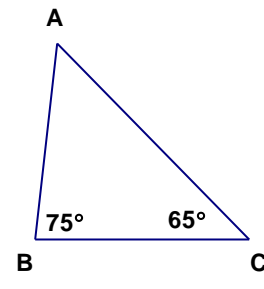


Figure 5

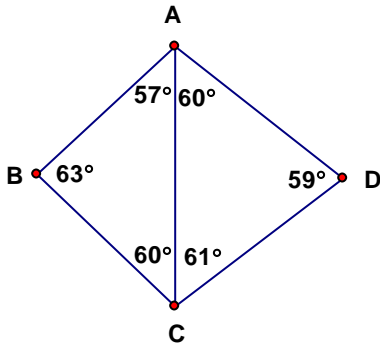
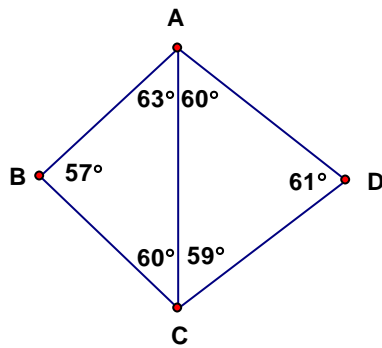


Figure 6

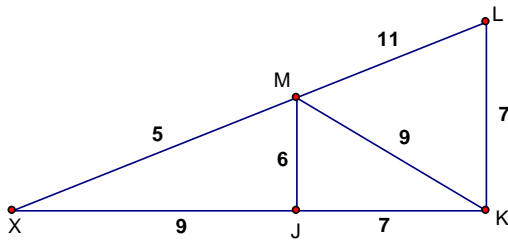


- \_\_\_\_\_ 1. Which angle is the largest angle in figure 1 above?
- \_\_\_\_\_ 2. Which side is the longest side in figure 2 above?
- \_\_\_\_\_ 3. Which angle is the largest angle in figure 3 above?
- \_\_\_\_\_ 4. Which side is the longest side in figure 4 above?
- \_\_\_\_\_ 5. Which angle is the smallest angle in figure 1 above?
- \_\_\_\_\_ 6. Which side is the smallest side in figure 2 above?
- \_\_\_\_\_ 7. Which angle is the smallest angle in figure 3 above?
- \_\_\_\_\_ 8. Which side is the smallest side in figure 4 above?
- \_\_\_\_\_ 9. Which side is the longest side in figure 5 above?
- \_\_\_\_\_ 10. Which side is the longest side in figure 6 above?

- \_\_\_\_\_ 11. In  $\triangle RST$   $\angle R = x + 10$ ,  $\angle S = x + 5$ , and  $\angle T = 3x - 35$ . Choose the list of sides of  $\triangle RST$  that are ordered correctly from longest to shortest.  
 A.  $\overline{TR}, \overline{RS}, \overline{ST}$     B.  $\overline{ST}, \overline{RS}, \overline{TR}$     C.  $\overline{RS}, \overline{ST}, \overline{TR}$     D.  $\overline{ST}, \overline{TR}, \overline{RS}$
- \_\_\_\_\_ 12. In  $\triangle RST$   $\angle R = 4x + 20$ ,  $\angle S = 5x$ , and  $\angle T = x + 60$ . Choose the list of sides of  $\triangle RST$  that are ordered correctly from longest to shortest.  
 A.  $\overline{TR}, \overline{RS}, \overline{ST}$     B.  $\overline{ST}, \overline{RS}, \overline{TR}$     C.  $\overline{RS}, \overline{ST}, \overline{TR}$     D.  $\overline{ST}, \overline{TR}, \overline{RS}$
- \_\_\_\_\_ 13. In  $\triangle RST$   $\angle R = 60$ ,  $\angle S = 2x + 40$ , and  $\angle T = x + 20$ . Choose the list of sides of  $\triangle RST$  that are ordered correctly from longest to shortest.  
 A.  $\overline{TR}, \overline{ST}, \overline{RS}$     B.  $\overline{ST}, \overline{RS}, \overline{TR}$     C.  $\overline{RS}, \overline{ST}, \overline{TR}$     D.  $\overline{ST}, \overline{TR}, \overline{RS}$
- \_\_\_\_\_ 14. In  $\triangle RST$   $\angle R = 6x + 30$ ,  $\angle S = 15x - 5$ , and  $\angle T = x + 45$ . Choose the list of sides of  $\triangle RST$  that are ordered correctly from longest to shortest.  
 A.  $\overline{TR}, \overline{ST}, \overline{RS}$     B.  $\overline{ST}, \overline{RS}, \overline{TR}$     C.  $\overline{RS}, \overline{ST}, \overline{TR}$     D.  $\overline{ST}, \overline{TR}, \overline{RS}$

Consider the figure below. Write an inequality ( $>$ ,  $<$ ) relating the two angles.  
 Figure is not drawn to scale and the measurements are not mathematically true.

15.  $\angle JMK$  \_\_\_\_\_  $\angle MJX$                       16.  $\angle MKJ$  \_\_\_\_\_  $\angle MKL$



17. In  $\triangle ABC$   $\angle A = 4x$ ,  $\angle B = 3x - 15$ , and  $\angle C = 4x + 30$ .  
 Determine the longest and shortest side of  $\triangle ABC$ .

Largest = \_\_\_\_\_                      Shortest = \_\_\_\_\_

18. In  $\triangle ABC$   $A = (0, 4)$ ,  $B = (2, -3)$ , and  $C = (3, 1)$ .  
 Determine which angle is largest and which is smallest.

Largest = \_\_\_\_\_                      Smallest = \_\_\_\_\_