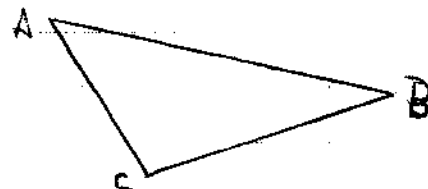


Geometry Ch 5-5 Exer, pg 333 #1-2, 6-12, 16-19, 21-26, 31-32

1. Using diagram, name each angle and its opposite side.

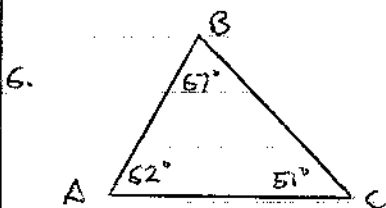


$\angle A$ is opposite $\overline{CB}$,
 $\angle B$ is opposite $\overline{AC}$,
 $\angle C$ is opposite $\overline{AB}$

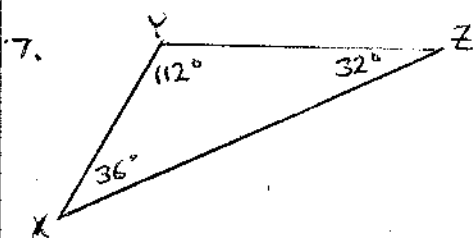
2. How can you tell from the angle measures of a triangle which side is longest/shortest?

The longest side is opposite the greatest angle, while the shortest side is opposite the smallest angle.

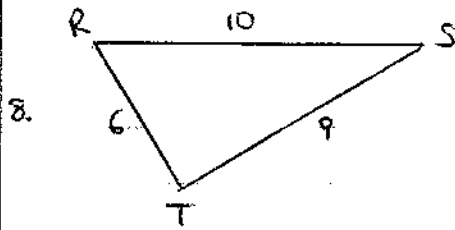
List the sides and angles in order from ~~the~~ smallest to largest.



smallest to largest
 SIDES: $\overline{AB}$, $\overline{BC}$, $\overline{AC}$
 ANGLES: $\angle C$, $\angle A$, $\angle B$



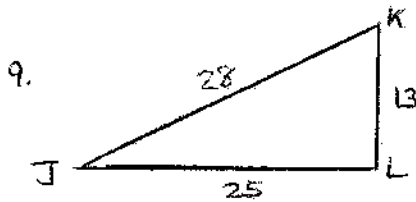
SIDES: $\overline{XY}$, $\overline{YZ}$, $\overline{XZ}$
 ANGLES: $\angle Z$, $\angle X$, $\angle Y$



Smallest to largest

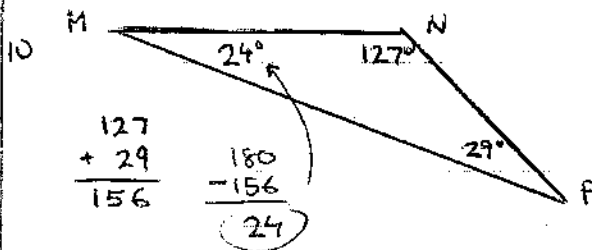
SIDES: $\overline{RT}$, $\overline{TS}$, $\overline{SR}$

ANGLES: $\angle S$, $\angle R$, $\angle T$



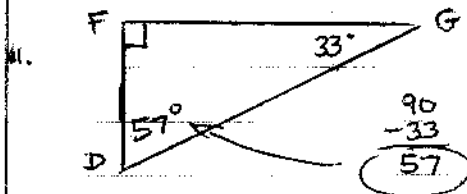
SIDES: $\overline{KL}$, $\overline{JL}$, $\overline{JK}$

ANGLES: $\angle J$, $\angle K$, $\angle L$



SIDES: $\overline{NP}$, $\overline{MN}$, $\overline{MP}$

ANGLES: $\angle M$, $\angle P$, $\angle N$



SIDES: $\overline{DF}$, $\overline{FG}$, $\overline{DG}$

ANGLES: $\angle G$, $\angle D$, $\angle F$

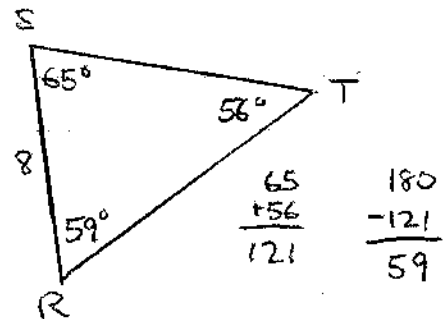
12. In $\triangle RST$, which is a possible length for ST ?

A. 7

B. 8

C. 9

D. Cannot be determined



Since $\angle R$ is greater than $\angle T$,
 $\overline{ST}$ must be greater than SR , or 8
 Thus 9 is a possible length

Is it possible to construct a triangle with given side lengths.

16. 6, 7, 11 Yes; $6 + 7 > 11$

17. 3, 6, 9 No; $3 + 6 = 9$ [Must be greater than 9]

18. 28, 34, 39 Yes; $28 + 34 > 39$

19. 35, 120, 125 Yes; $35 + 120 > 125$

Describe the possible lengths to the third side of the triangle given the lengths of the other two sides.

21. 5 in, 12 in $\left. \begin{array}{l} 12 - 5 = 7 \\ 12 + 5 = 17 \end{array} \right\} 7 < 3^{\text{rd}} \text{ side} < 17 \text{ inches}$

22. 3 m, 4 m $\left. \begin{array}{l} 4 - 3 = 1 \\ 4 + 3 = 7 \end{array} \right\} 1 \text{ m} < 3^{\text{rd}} \text{ side} < 7 \text{ m}$

23. 12 ft, 18 ft $\left. \begin{array}{l} 18 - 12 = 6 \\ 18 + 12 = 30 \end{array} \right\} 6 \text{ ft} < 3^{\text{rd}} \text{ side} < 30 \text{ ft}$

24. 10 yds, 23 yds $\left. \begin{array}{l} 23 - 10 = 13 \\ 23 + 10 = 33 \end{array} \right\} 13 \text{ yds} < 3^{\text{rd}} \text{ side} < 33 \text{ yds}$

25. 2 ft, 40 inches $\left. \begin{array}{l} 40 - 24 = 16 \\ 40 + 24 = 64 \end{array} \right\} 16 \text{ in} < 3^{\text{rd}} \text{ side} < 64 \text{ in}$
24 inches, 40 inches

26. 25 m, 25 m $\left. \begin{array}{l} 25 - 25 = 0 \\ 25 + 25 = 50 \end{array} \right\} 0 \text{ m} < 3^{\text{rd}} \text{ side} < 50 \text{ m}$

Is it possible to build a triangle using the given side lengths.
If so, list the angles from least to greatest.

31. $PQ = \sqrt{58} = 7.62$

$QR = 2\sqrt{13} = 7.21$

$PR = 5\sqrt{2} = 7.07$

Yes, because $7.07 + 7.21 > 7.62$

Smallest Angle: $\angle Q$

Middle Angle: $\angle P$

Greatest Angle: $\angle R$

32. $ST = \sqrt{29} = 5.39$

$TU = 2\sqrt{17} = 8.25$

$SU = 13.9 = 13.9$

No, because $5.39 + 8.25$ is not
greater than 13.9