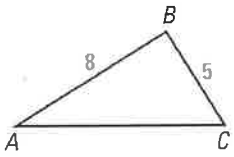
Name _____ Date _____

Given the triangle: Write an inequality for the angles or sides provided. Then write an inequality for any relationships you can infer.

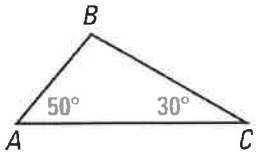
1.



AB > BC.

∠C > ∠A

2.

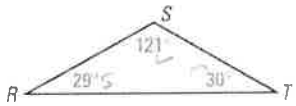


∠A > ∠C

BC > AB

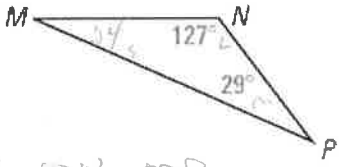
List the sides of the triangle in order form least to greatest.

3.



ST, RS, RT

4.



NP, MN, MP

5.

$m\angle A = 10x, m\angle B = 5x - 17,$
$m\angle C = 7x - 1$

Angles = 180

22x - 18 = 180

x = 9

∠A = 90

∠B = 28

∠C = 62

AC, AB, BC

6.

$m\angle A = 5x + 2, m\angle B = 6x - 10,$
$m\angle C = x + 20$

12x + 12 = 180

x = 14

∠A = 72

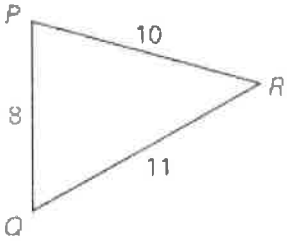
∠B = 74

∠C = 34

AB, BC, AC

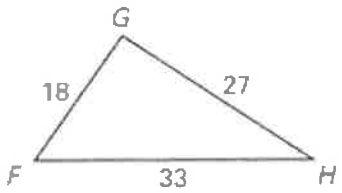
List the angles of the triangle from greatest to least.

7.



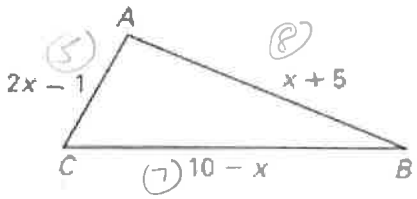
∠P, ∠Q, ∠R

8.



∠G, ∠F, ∠H

9. Perimeter of the triangle is 20.

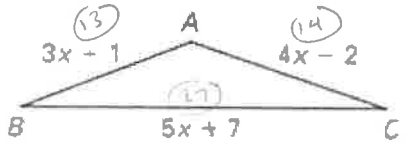


$2x-1+x+5+10-x=20$

$2x+14=20$

$x=3$ ∠C, ∠A, ∠B

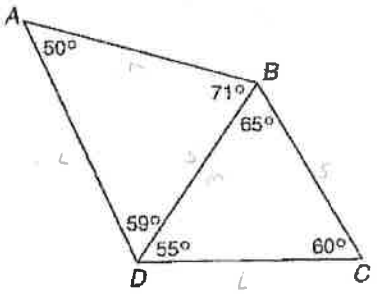
10. Perimeter of the triangle is 54.



$12x+6=54$

$x=4$ ∠A, ∠B, ∠C

11. Name the shortest segment in the figure. BC



Name all segments longer than BD.

DC

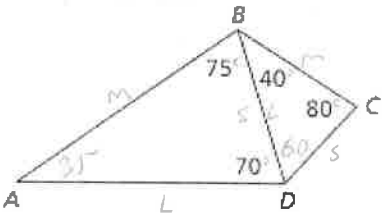
AB

AD

12. Name the longest and shortest segments in the figure.

Longest: AD

Name all segments shorter than BD. Shortest: CD

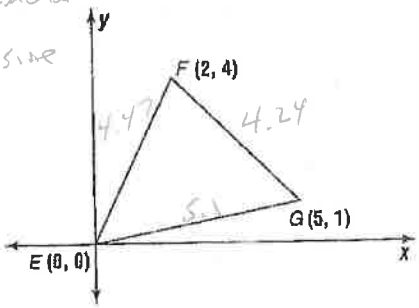


BC

DC

13. List the sides in order from longest to shortest.

dist Formula For each side



$\overline{EG}$, $\overline{EF}$, $\overline{GF}$

List the angles in order from smallest to largest.

∠E, ∠G, ∠F