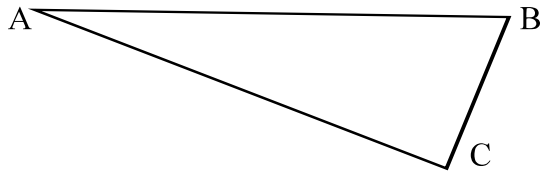
KEY

Triangles: Angle- Side Relationships 2

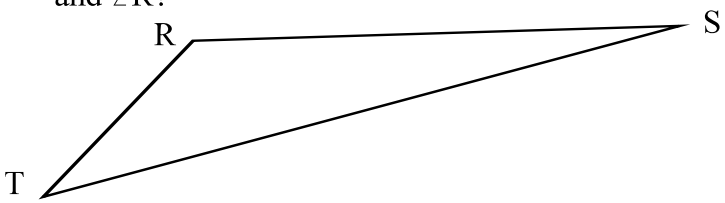
Geometry

BC, AC, AB EF, DF, DE GI, HI, GH

1) In the triangle, AB > BC. What is true of ∠C and ∠A?

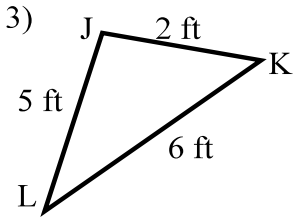


2) In the triangle, ST > RT. What is true of ∠S and ∠R?



List the angles from smallest to greatest.

3)



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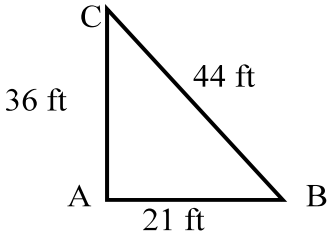

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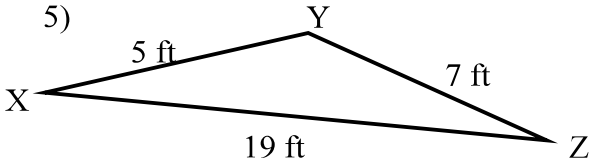
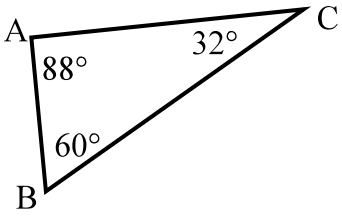


List the sides from longest to shortest.

6)



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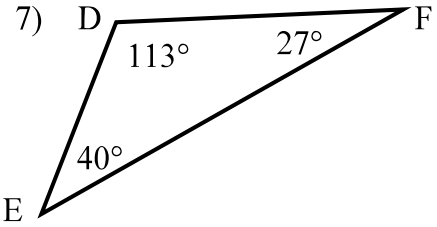
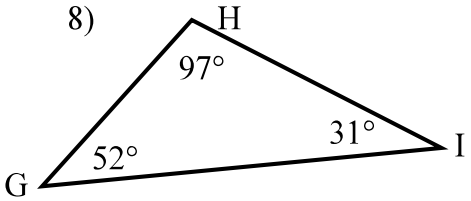


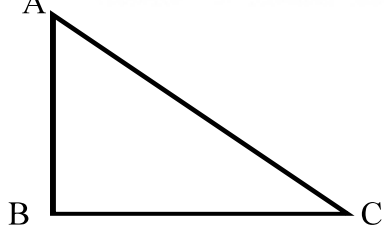
8)



List three inequalities for each triangle.

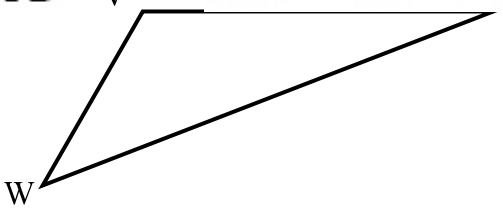
9)

$AB + BC > AC$
$AB + AC > BC$
$AC + BC > AB$



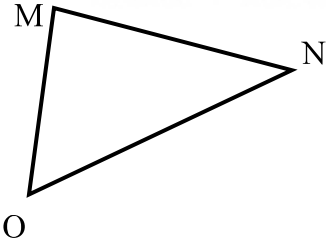
$\overline{XR}$

$WV + VX > WX$
$WV + WX > VX$
$WX + VX > WV$



11)

$MO + NO > M$
$MO + MN > N$
$MN + NO > M$



Can these numbers be the lengths of the sides of a triangle?

12) 9, 7, 3	13) 10, 6, 4	14) 15, 1, 13	15) 21, 14, 32	16) 19, 35, 14
Yes	No	No	Yes	No
17) 19, 2, 18	18) 17, 4, 21	19) 10, 5, 17	20) 14, 11, 22	21) 7, 18, 9
Yes	No	No	Yes	No

In the following problems, the lengths of two sides of a triangle are given. What can you say about the possible lengths for the third side?

22) 17, 5	23) 19, 11	24) 8, 2	25) 19, 35
$12 < x < 22$	$8 < x < 30$	$6 < x < 10$	$16 < x < 54$