

# Inequalities for One Triangle

For use after Section 6-4

Is it possible for a triangle to have sides with the lengths indicated?

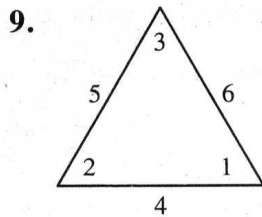
Write *Yes* or *No*.

- |                    |                       |
|--------------------|-----------------------|
| 1. 12, 11, 4 _____ | 2. 14, 14, 0.02 _____ |
| 3. 5, 5, 15 _____  | 4. 8, 8, 8 _____      |

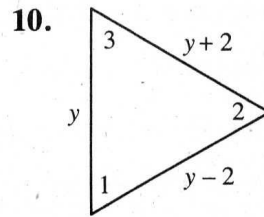
The lengths of two sides of a triangle are given. Write the numbers that best complete the statement: The length of the third side must be greater than \_\_\_\_\_, but less than \_\_\_\_\_.

- |                      |                        |
|----------------------|------------------------|
| 5. 7, 9 _____        | 6. 15, 15 _____        |
| 7. $4x$ , $6x$ _____ | 8. $k$ , $k + 2$ _____ |

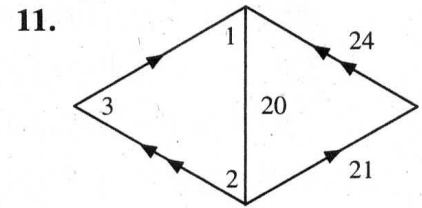
In Exercises 9-11 the diagrams are not drawn to scale. If each diagram were drawn to scale, which numbered angle would be the largest?



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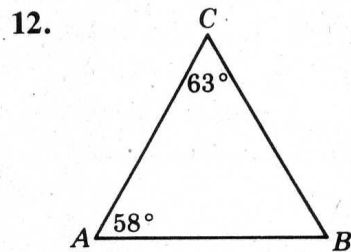


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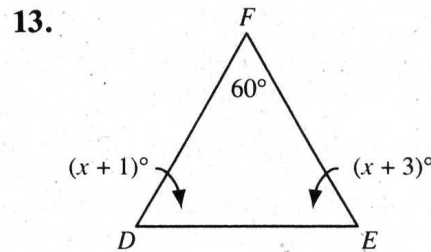


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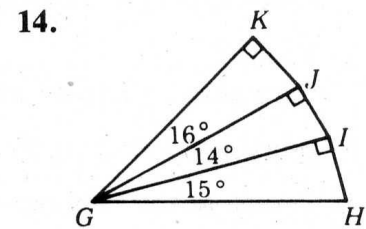
In Exercises 12-14 the diagrams are not drawn to scale. If each diagram were drawn to scale, which segment would be the longest?



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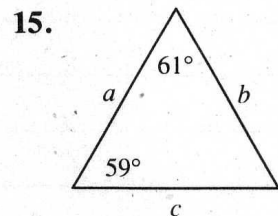


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\_\_\_\_\_

Use lengths  $a$ ,  $b$ , and  $c$  to complete.



\_\_\_\_\_ > \_\_\_\_\_ > \_\_\_\_\_