

Day 1: Basic Triangle Properties

Introduction to Triangles

1) Triangles can be classified by their sides:

Equilateral:

Isosceles:

Scalene:

2) Triangles can be classified by their angles:

Acute:

Right:

Obtuse:

Properties of Isosceles Triangles

3) Two sides are _____

Base angles (_____) are _____

Draw a picture:

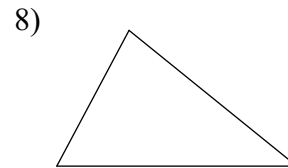
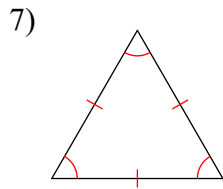
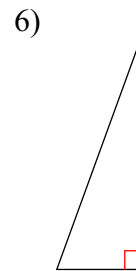
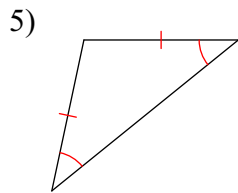
Properties of Equilateral Triangles

4) All _____ are _____

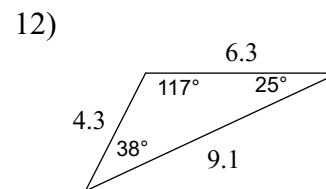
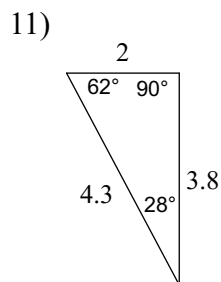
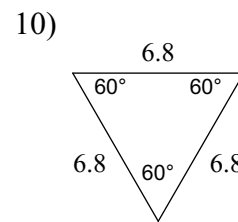
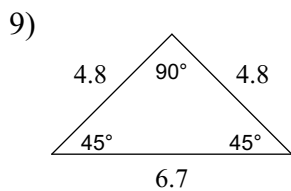
All _____ are _____

Draw a picture:

Classify each triangle by its angles and sides. Equal sides and equal angles, if any, are indicated in each diagram.



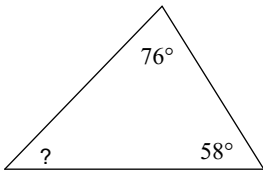
Classify each triangle by its angles and sides.



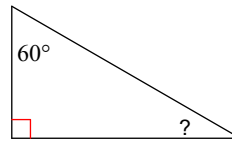
13) A VERY IMPORTANT TRIANGLE PROPERTY: All three angles add up to _____ degrees.

Find the measure of each angle indicated.

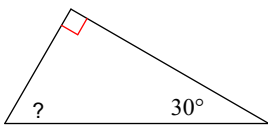
14)



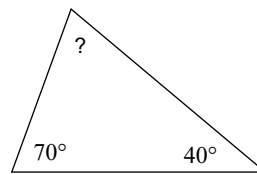
15)



16)

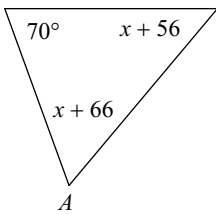


17)

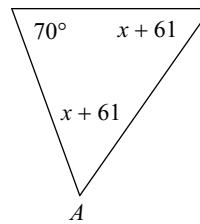


Find the measure of angle A.

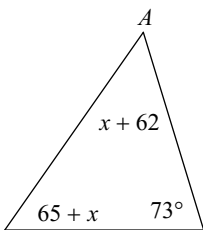
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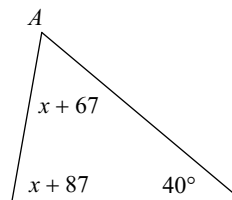
19)



20)



21)



Triangle Inequalities Conjecture

22) The _____ of the lengths of any two sides of a triangle is _____ than the length of the third side.

Prove if the three numbers can be the measures of the sides of a triangle.

23) 4, 10, 12

24) 12, 22, 8

25) 10, 6, 17

26) 11, 7, 19

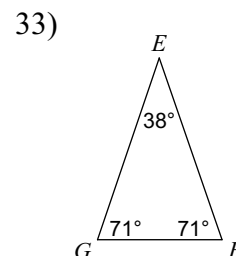
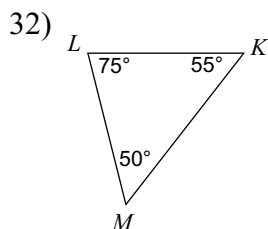
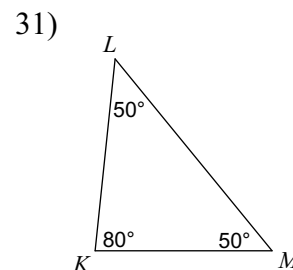
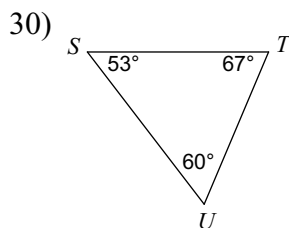
27) 9, 12, 3

28) 4, 9, 6

Side-Angle Inequality Conjecture

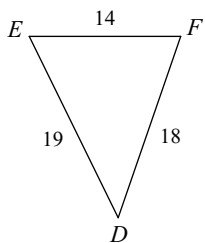
29) If any one side is _____ than another side than the angle _____ the longer side has a _____ measure than the angle opposite the shorter side.

Order the sides of each triangle from shortest to longest.

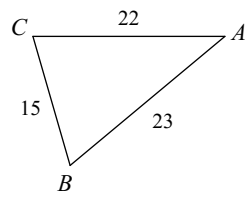


Order the angles in each triangle from smallest to largest.

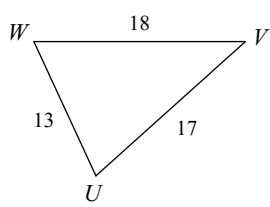
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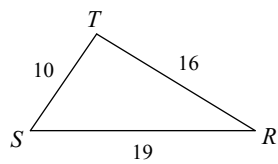
35)



36)

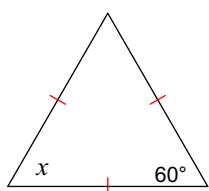


37)

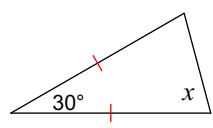


Find the value of x .

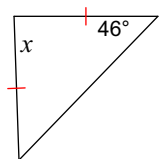
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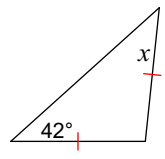
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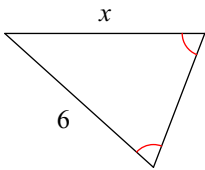
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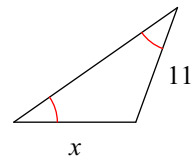
41)



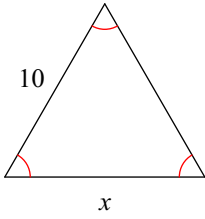
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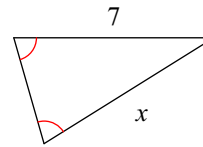
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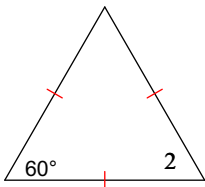
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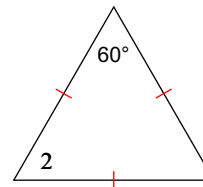
45)



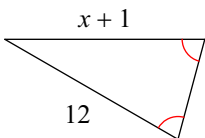
46) $m\angle 2 = 5x + 5$



47) $m\angle 2 = x + 69$



48)



49)

