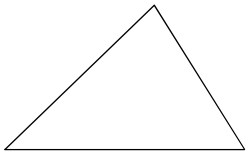
Geometry Name_____

Classifying Triangles

Classify each triangle by its angles and sides. Base your decision on the actual lengths of the sides and the measures of the angles.

1)



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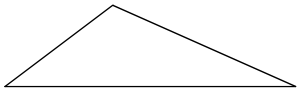

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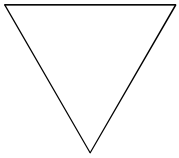

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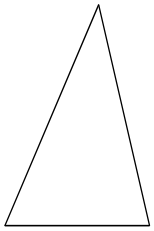

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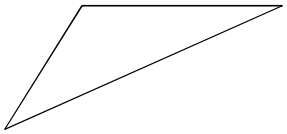
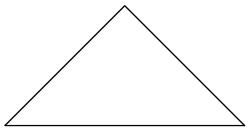
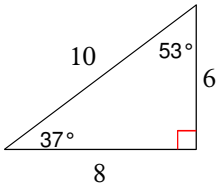


6)

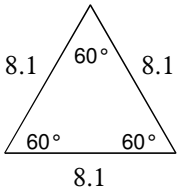


Classify each triangle by its angles and sides.

7)



8)



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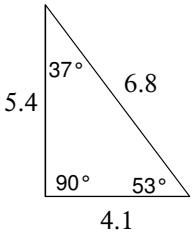

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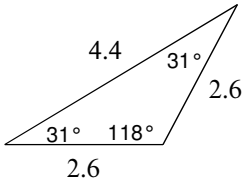
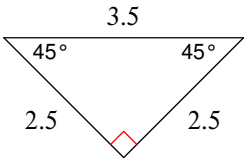
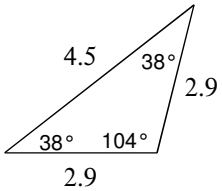


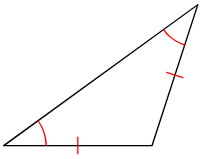
11)

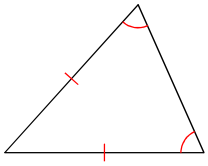


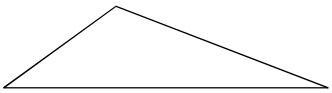
12)

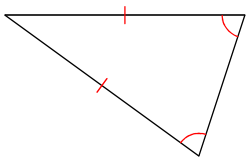


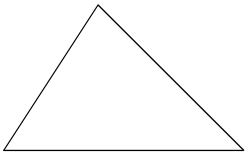
Classify each triangle by its angles and sides. Equal sides and equal angles, if any, are indicated in each diagram.

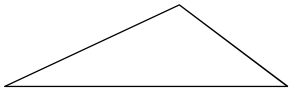
13) 

14) 

15) 

16) 

17) 

18) 

Sketch an example of the type of triangle described. Mark the triangle to indicate what information is known. If no triangle can be drawn, write "not possible."

19) right scalene

20) right isosceles

21) right equilateral

22) acute isosceles

23) acute scalene

24) equilateral

25) obtuse scalene

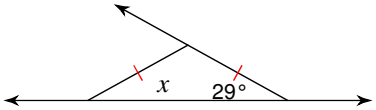
26) obtuse equilateral

Geometry Name_____

Isosceles & Equilateral Triangles

Find the value of *x*.

1)



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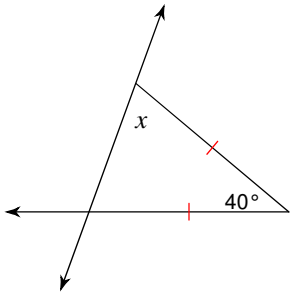

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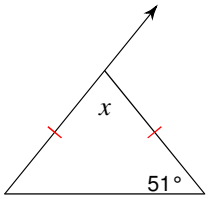

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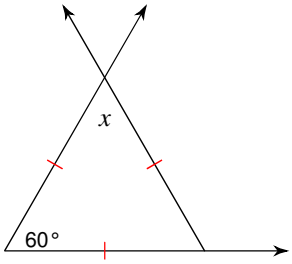

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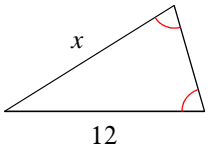

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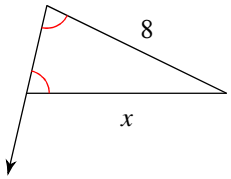

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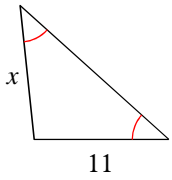

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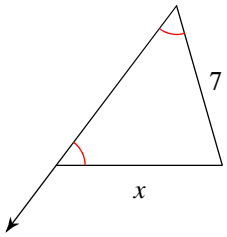

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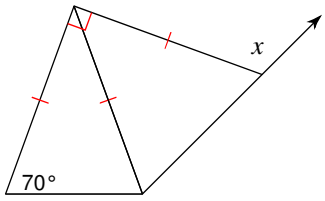

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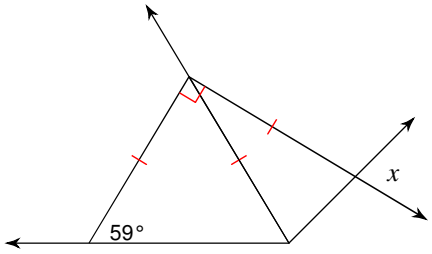

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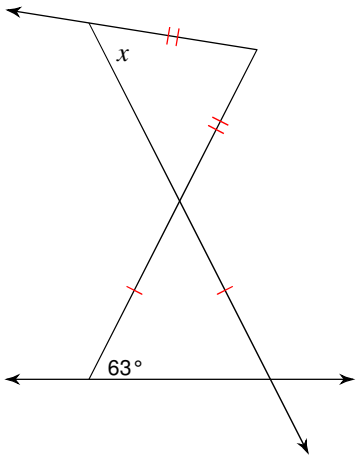

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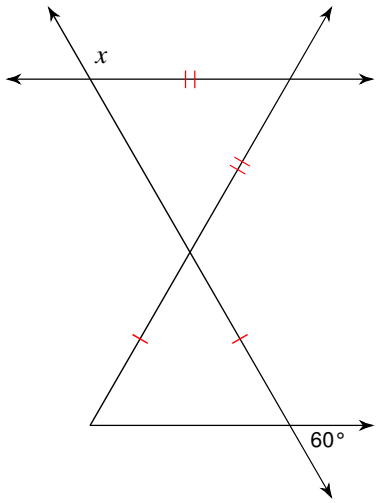

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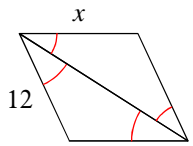

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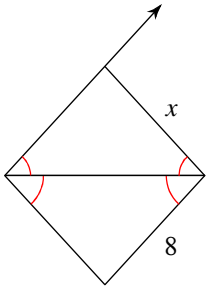

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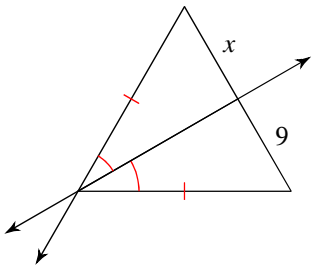

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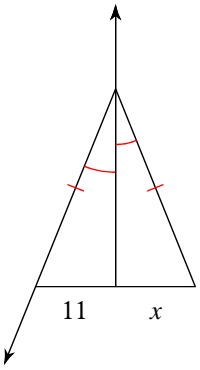

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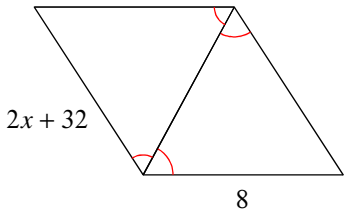

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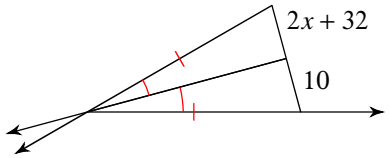
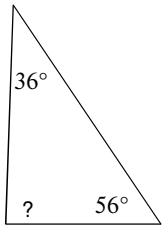


Geometry Name_____

Exterior & Interior Angles of Triangles

Find the measure of each angle indicated.

1)



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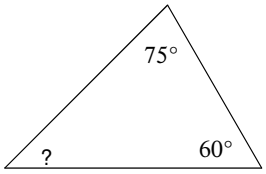

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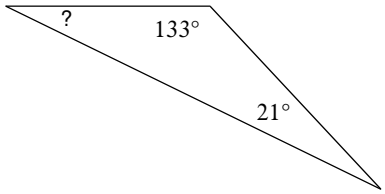

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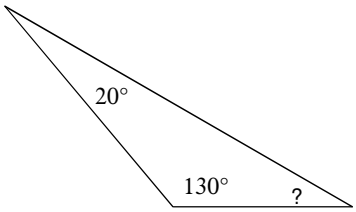

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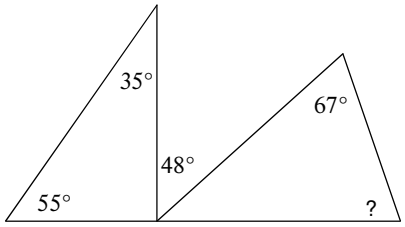

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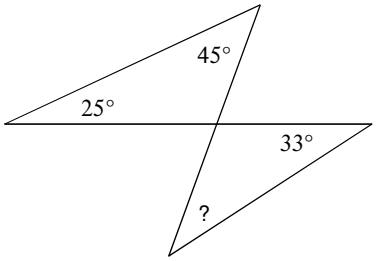
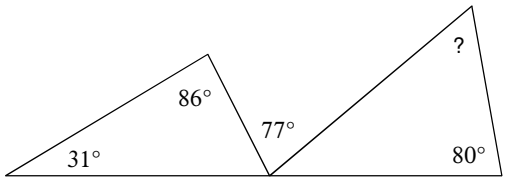
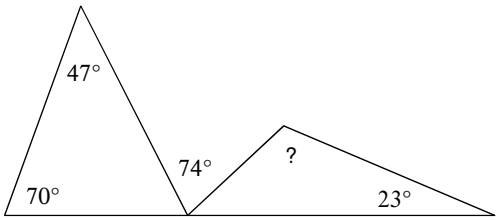


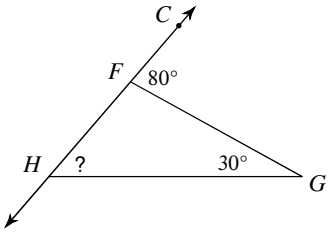
7)



8)



9)



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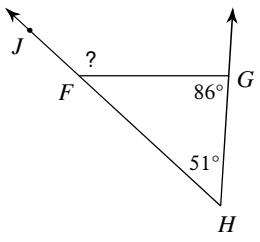
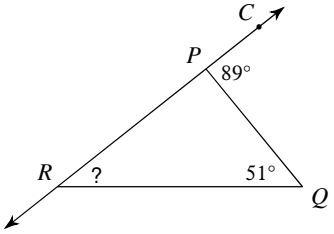


11)



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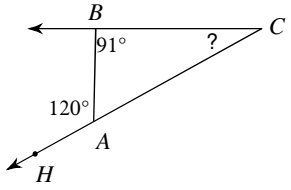
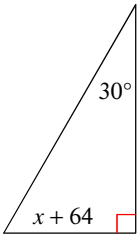
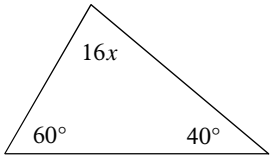


Solve for x.

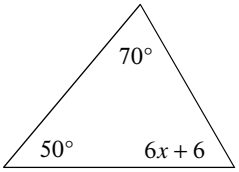
13)



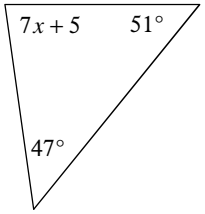
14)



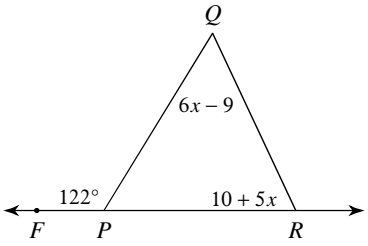
15)



16)



17)



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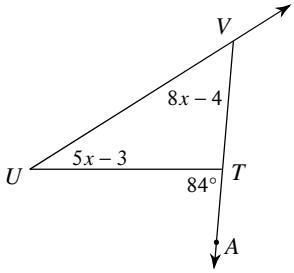

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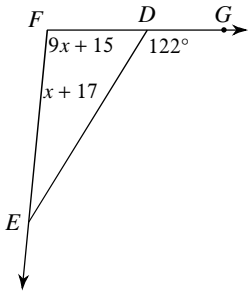
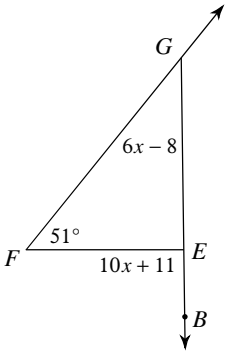
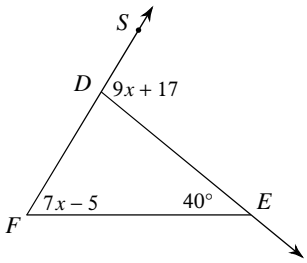


20)

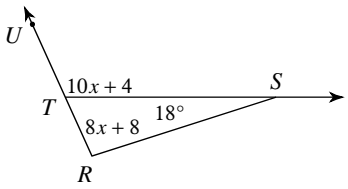


Find the measure of the angle indicated.

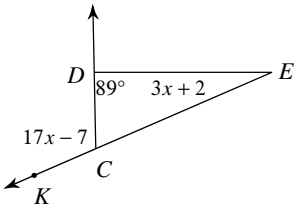
21) Find $m\angle SDE$.



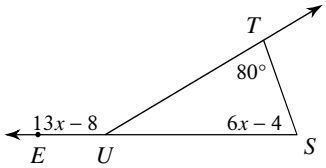
22) Find $m\angle UTS$.



23) Find $m\angle KCD$.



24) Find $m\angle S$.



Geometry Name_____

Triangle Inequalities

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

1) 6, 9, 3

2) 25, 10, 12

3) 11, 19, 8

4) 20, 8, 11

5) 10, 6, 7

6) 9, 10, 7

7) 7, 6, 6

8) 2, 10, 12

Two sides of a triangle have the following measures. Find the range of possible measures for the third side.

9) 9, 10

10) 8, 10

11) 11, 12

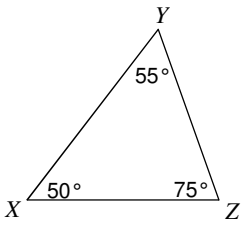
12) 9, 11

13) 12, 7

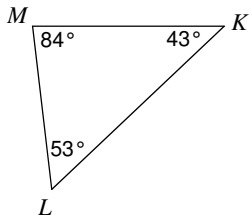
14) 12, 6

Order the sides of each triangle from shortest to longest.

15)



16)

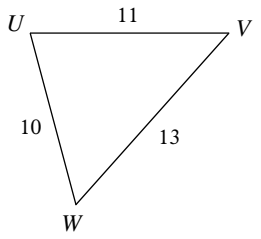


17) In ΔQRS
$m\angle Q = 30°$
$m\angle R = 50°$
$m\angle S = 100°$

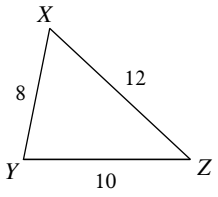
18) In ΔQRS
$m\angle Q = 42°$
$m\angle R = 38°$
$m\angle S = 100°$

Order the angles in each triangle from smallest to largest.

19)



20)



21) In ΔCDE
$DE = 16$
$CE = 16$
$CD = 19$

22) In ΔABC
$BC = 8$
$AC = 15$
$AB = 14$

23) In triangle ABC, side AB is the longest side and angle B is 70°. Find the range of possible measures for angle A.

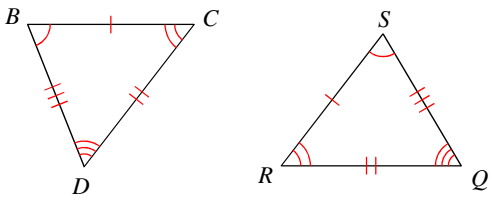
24) In triangle XYZ, side XY is the shortest side and angle Y is 30°. Find the range of possible measures for angle X.

Geometry Name_____

Triangle Congruence

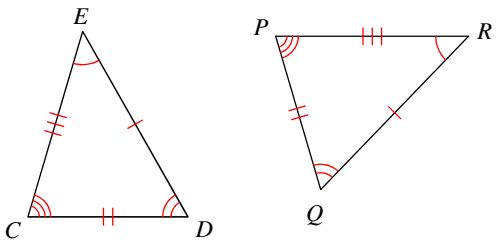
Complete each congruence statement by naming the corresponding angle or side.

1) $\Delta BCD \cong \Delta SRQ$



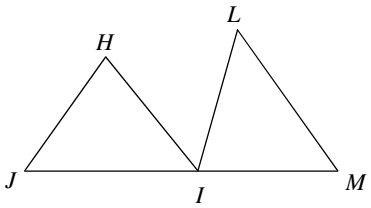
$\overline{CD} \cong ?$

2) $\Delta EDC \cong \Delta RQP$



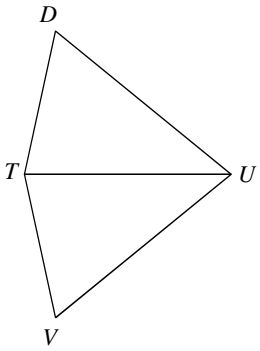
$\overline{ED} \cong ?$

3) $\Delta JHI \cong \Delta MIL$



$\angle J \cong ?$

4) $\Delta TUV \cong \Delta TUD$



$\angle VTU \cong ?$

5) $\Delta HIJ \cong \Delta WVU$

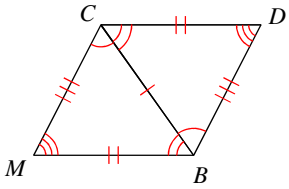
$\angle J \cong ?$

6) $\Delta ABC \cong \Delta DEF$

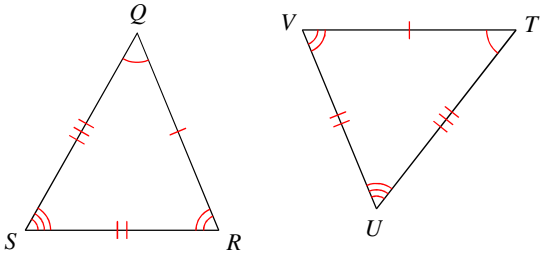
$\angle C \cong ?$

Write a statement that indicates that the triangles in each pair are congruent.

7)

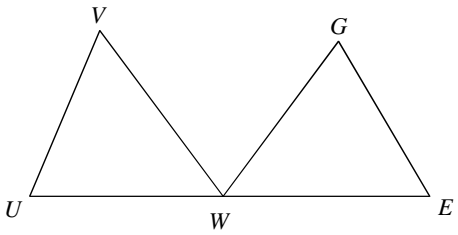


8)

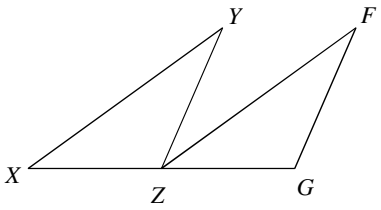


Mark the angles and sides of each pair of triangles to indicate that they are congruent.

9) $\Delta UVW \cong \Delta GEW$

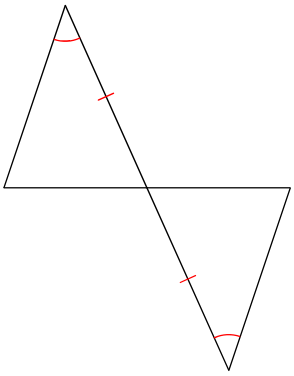


10) $\Delta XYZ \cong \Delta ZFG$

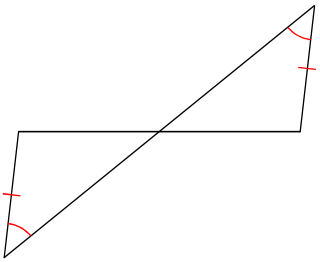


State if the two triangles are congruent. If they are, state how you know.

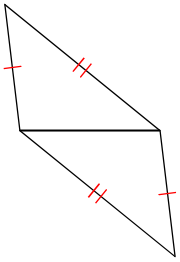
11)



12)



13)



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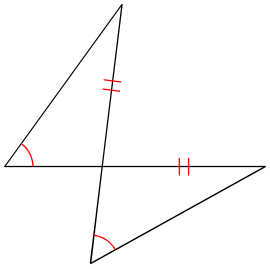

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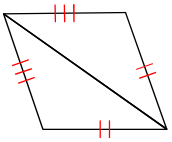

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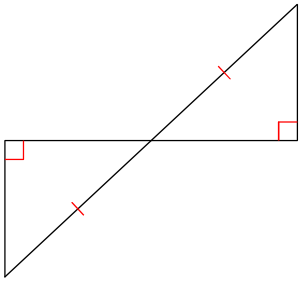

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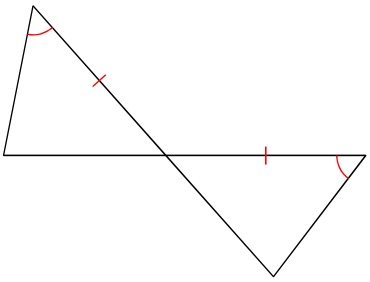
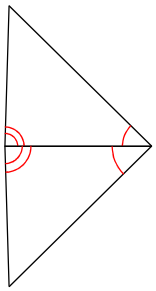


18)



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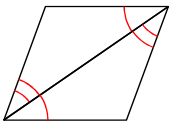
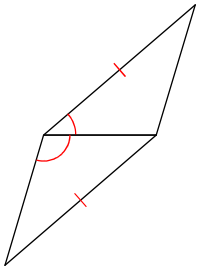


20)



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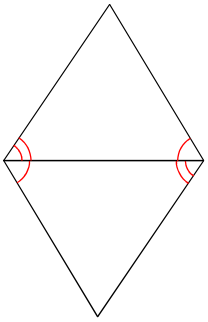

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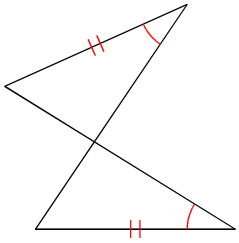
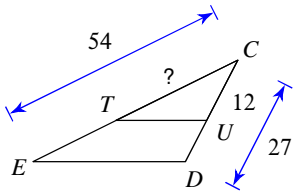


Geometry Name_____

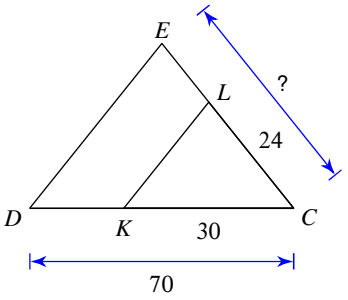
Triangle Similarity

Find the missing length. The triangles in each pair are similar.

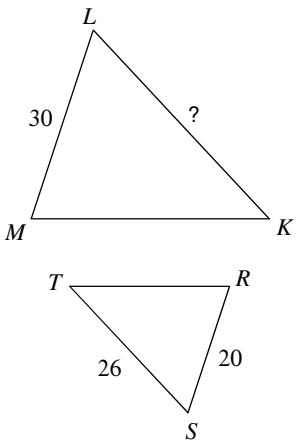
1)



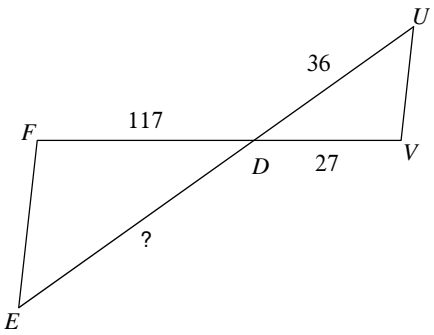
2)



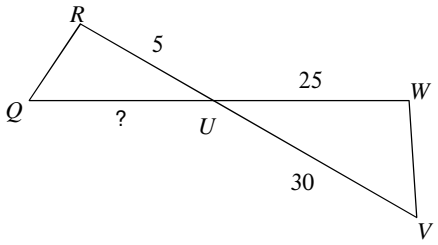
3)



4)



5)



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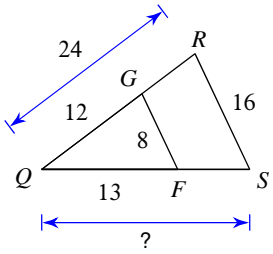
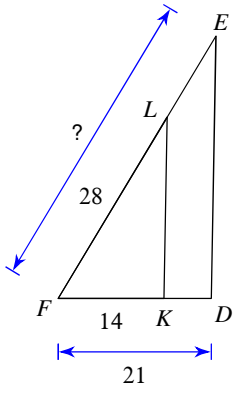
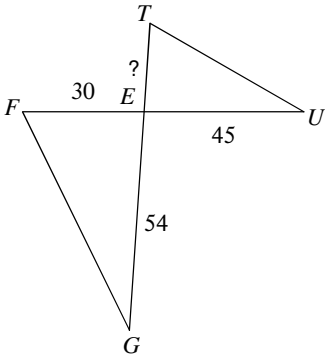


7)

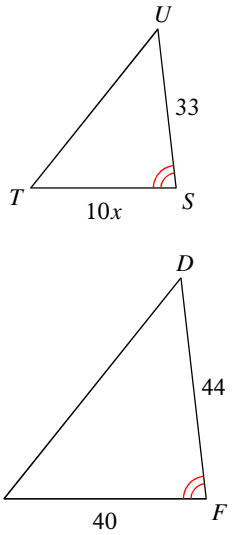


8)



Solve for x. The triangles in each pair are similar.

9)



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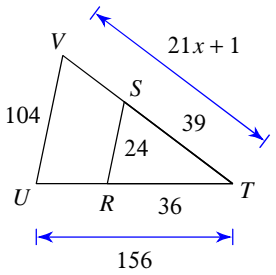
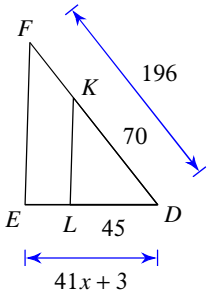


11)



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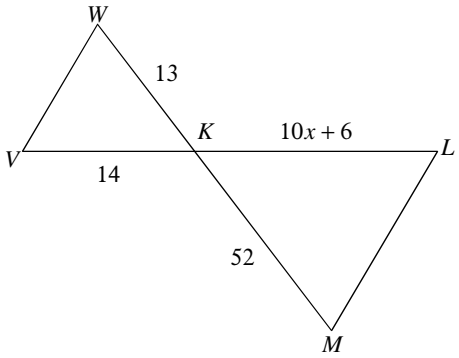

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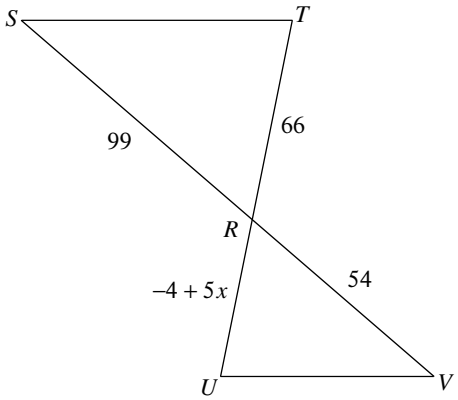

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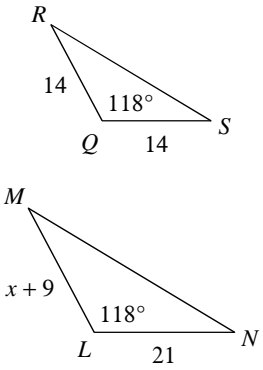
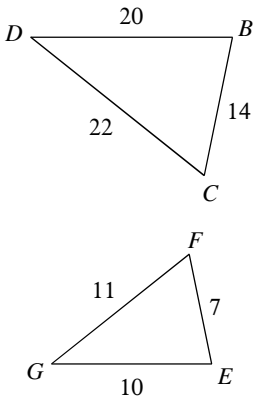


State if the triangles in each pair are similar. If so, state how you know they are similar.

15)



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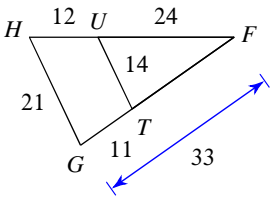

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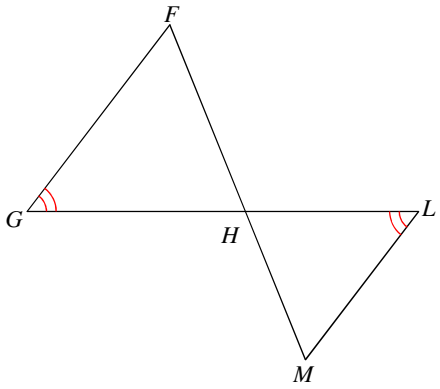
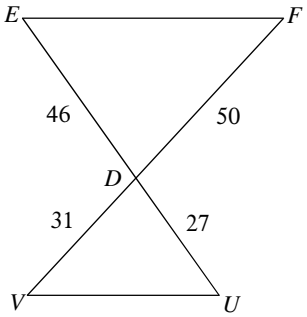


18)



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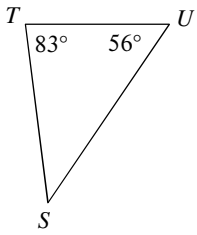

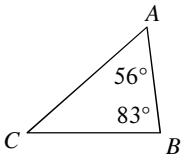

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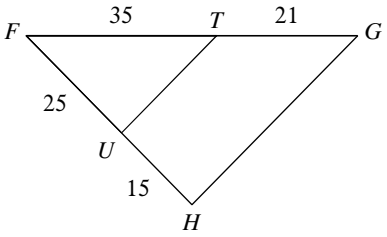
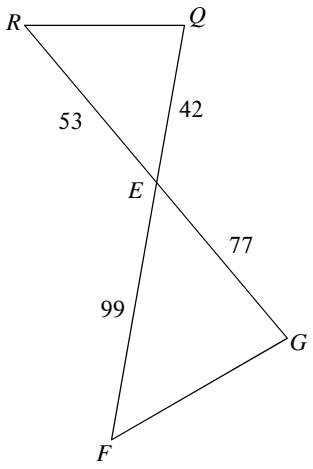
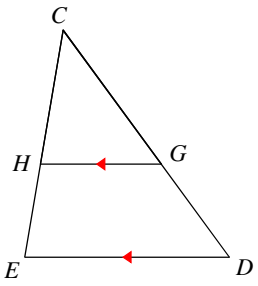


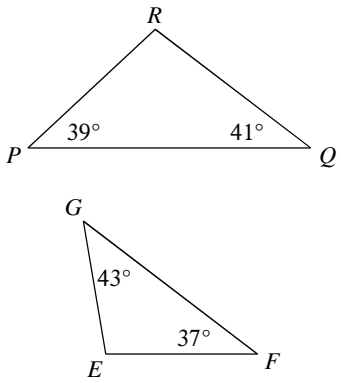
21)


R
Q
53
42
E
77
99
G
F

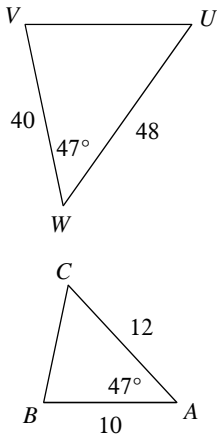
22)


C
H
G
E
D

23)


R
39°
41°
P
Q
G
43°
37°
E
F

24)

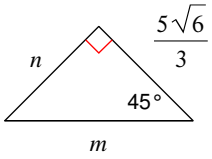

V
U
40
47°
48
W
C
12
47°
B
10
A

Geometry Name_____

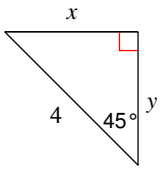
Special Right Triangles

Find the missing side lengths. Leave your answers as radicals in simplest form.

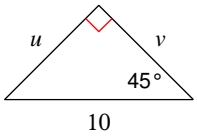
1)



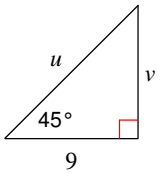
2)



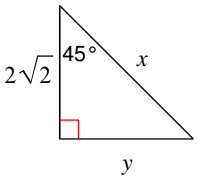
3)



4)



5)



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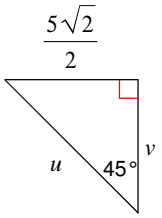

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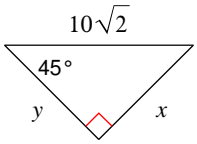

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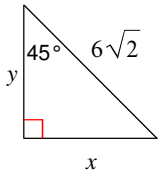

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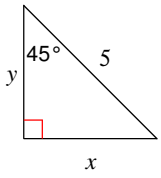

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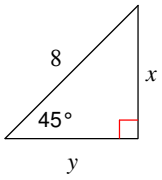

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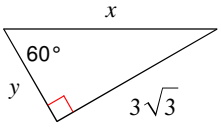

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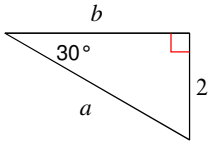

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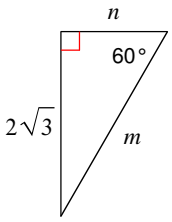

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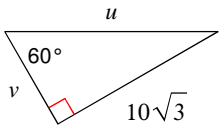

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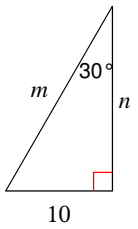

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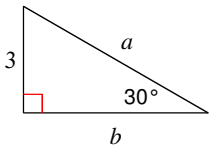

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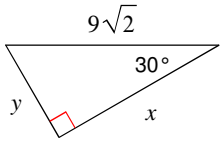

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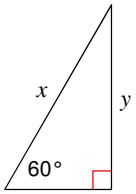
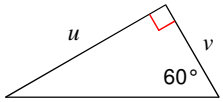


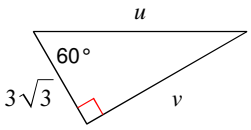
$\frac{10\sqrt{3}}{3}$

19)



$\frac{20\sqrt{3}}{3}$

20)

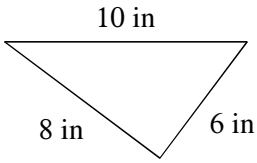


Geometry Name_____

Pythagorean Theorem

State if each triangle is acute, obtuse, or right.

1)



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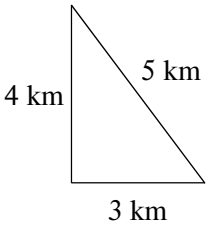

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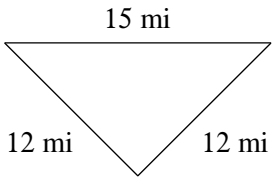

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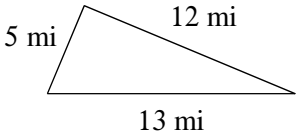
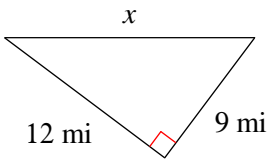


Find the missing side of each triangle. Your answer should be in the same form as the problem.

5)



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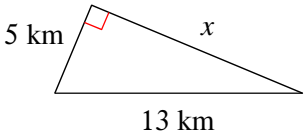

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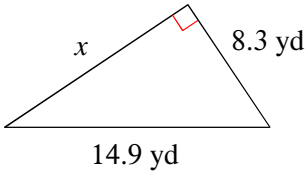

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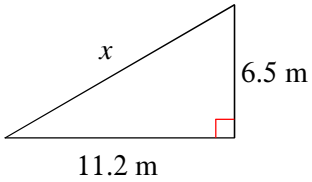

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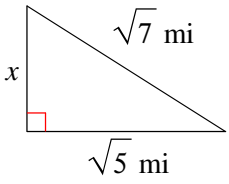
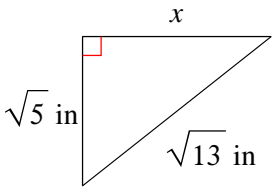


10)



11) $b = 8$ yd, $c = 10$ yd

12) $a = 9$ m, $c = 15$ m

13) $a = 9.4$ cm, $c = 15.4$ cm

14) $a = 6.4$ ft, $c = 15.7$ ft

15) $b = \sqrt{101}$ km, $c = 16$ km

16) $b = \sqrt{65}$ ft, $c = 15$ ft

Geometry Name_____

Trigonometry Part I

Find the value of each trigonometric ratio to the nearest ten-thousandth.

1) cos 71°

2) sin 58°

3) tan 35°

4) cos 1°

5) sin 69°

6) cos 3°

7) sin 48°

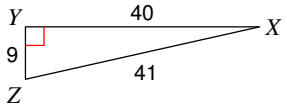
8) cos 82°

9) tan 49°

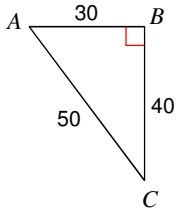
10) tan 87°

Find the value of each trigonometric ratio.

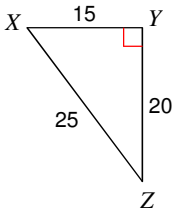
11) sin *Z*



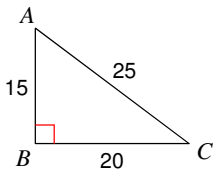
12) sin *A*



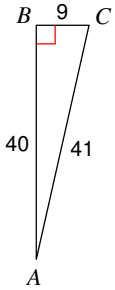
13) tan *Z*



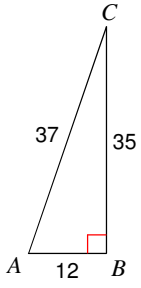
14) tan *A*



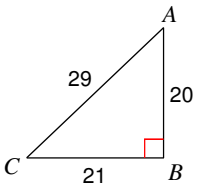
15) cos *A*



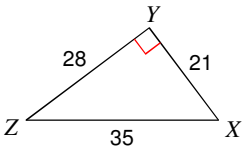
16) sin *C*



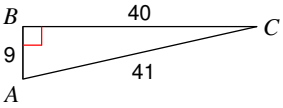
17) tan C



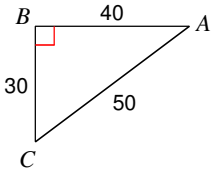
18) cos Z



19) cos A



20) tan A

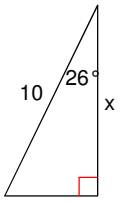


Geometry Name_____

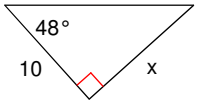
Trigonometry Part II

Find the missing side. Round to the nearest tenth.

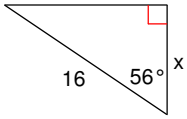
1)



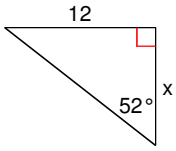
2)



3)



4)



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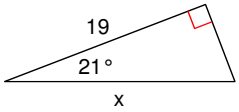

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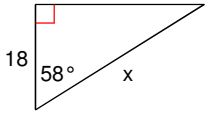

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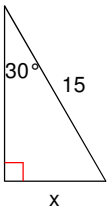
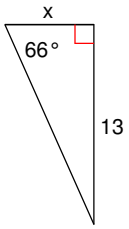


8)



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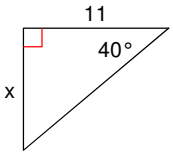

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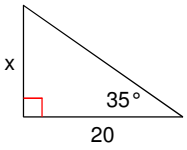

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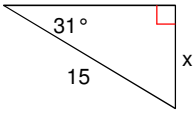

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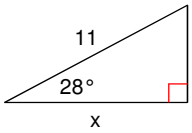

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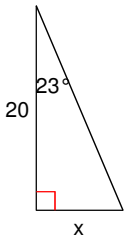

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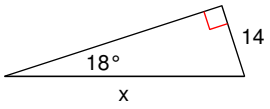
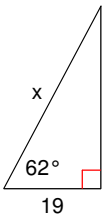
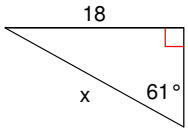


15)



16)



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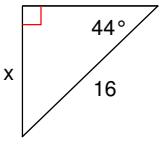

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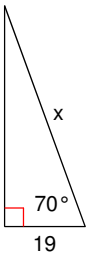

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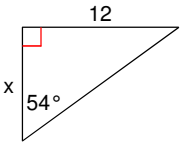

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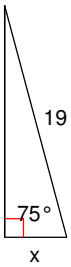


Geometry Name_____

Trigonometry Part III

Find each angle measure to the nearest degree.

1) sin A = 0.4067

2) sin A = 0.6018

3) cos V = 0.7660

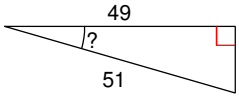
4) cos A = 0.9397

5) tan B = 0.6494

6) tan B = 2.0503

Find the measure of the indicated angle to the nearest degree.

7)



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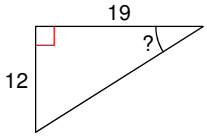

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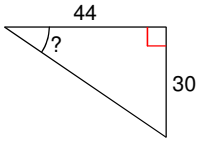

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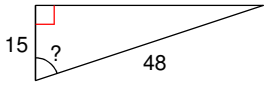
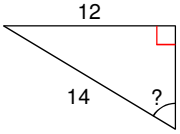


11)



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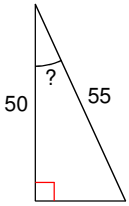

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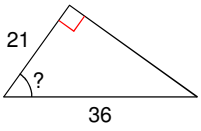

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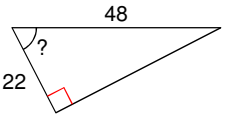

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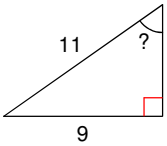

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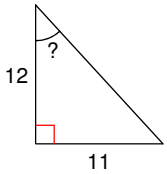

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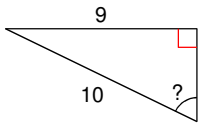

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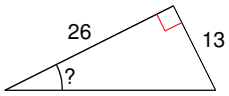

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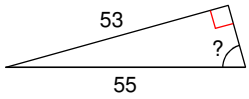

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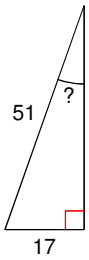
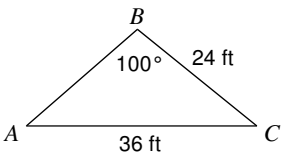


Geometry Name_____

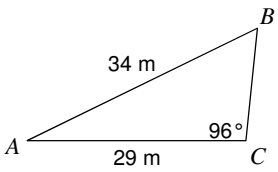
Law of Sines

Find each measurement indicated. Round your answers to the nearest hundredth.

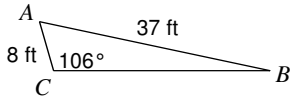
1) Find $m\angle A$



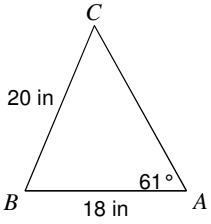
2) Find $m\angle B$



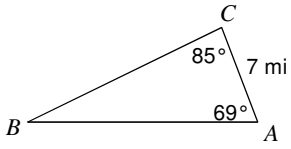
3) Find $m\angle B$



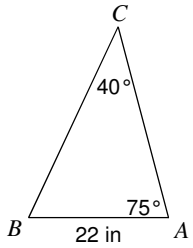
4) Find $m\angle C$



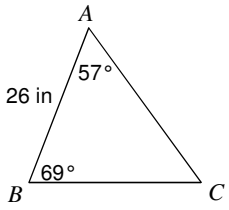
5) Find BC



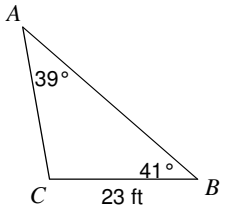
6) Find BC



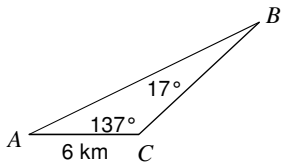
7) Find AC



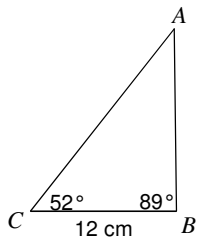
8) Find AC



9) Find AB

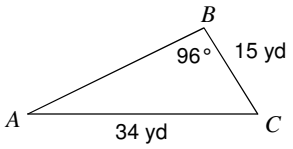


10) Find AB

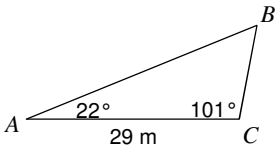


Find all missing measures. Round your answers to the nearest hundredth.

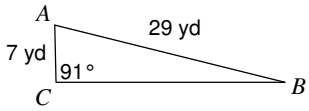
11)



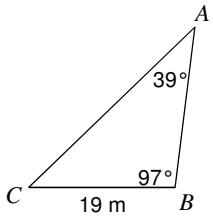
12)



13)



14)

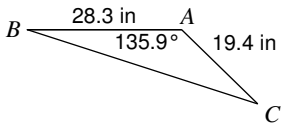


Geometry Name_____

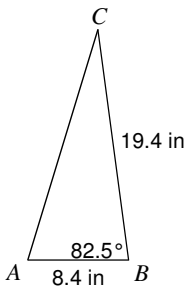
Law of Cosines

Find each measurement indicated. Round your answers to the nearest hundredth.

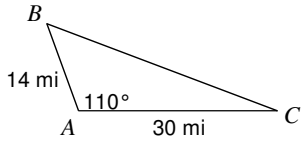
1) Find BC



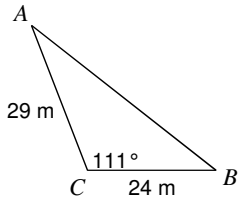
2) Find AC



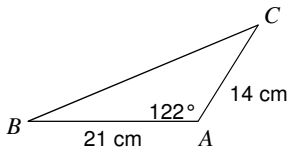
3) Find BC



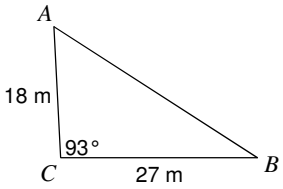
4) Find AB



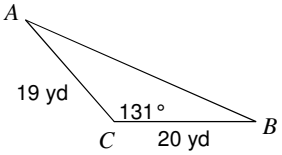
5) Find $m\angle B$



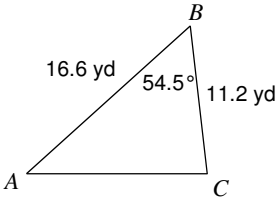
6) Find $m\angle A$



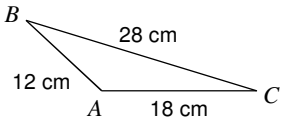
7) Find $m\angle A$



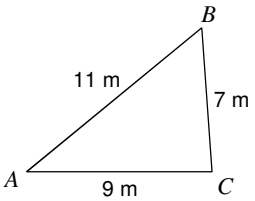
8) Find $m\angle C$



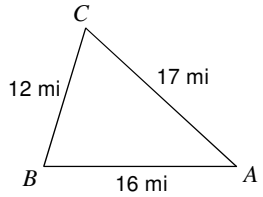
9) Find $m\angle C$



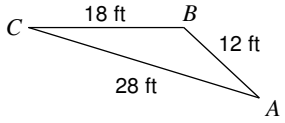
10) Find $m\angle C$



11) Find $m\angle A$

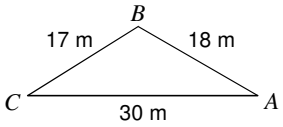


12) Find $m\angle B$

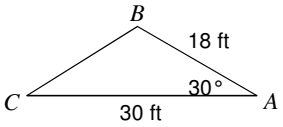


Find all missing measures. Round your answers to the nearest hundredth.

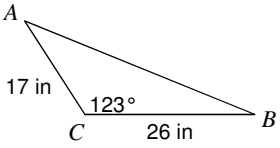
13)



14)



15)



16)