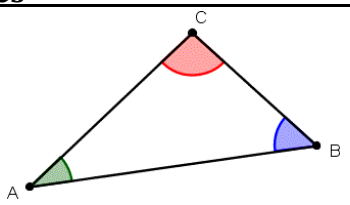
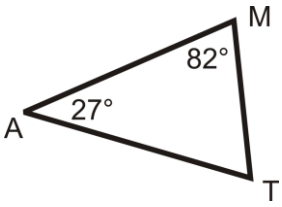
Unit 4-Lesson 3:Triangle Angle Sum Theorem/Classifying Triangles

Triangle Angle-Sum Theorem



- The sum of the measures of the angles in a triangle is _____
  - $m\angle A + m\angle A + m\angle A = 180°$

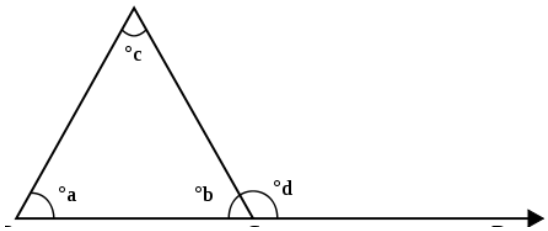
Example: Find the measure of ∠T in ΔATM.



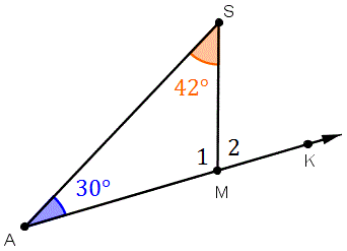
- $m\angle T =$ _____

Triangle Exterior Angle Theorem

- The measure of each exterior angle of a triangle equals the _____ of the measure of its _____ remote interior angles
  - $m\angle a + m\angle c = m\angle d$

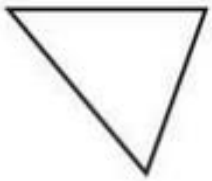


Example: Find the measure of exterior angle 2 in ΔSAM.



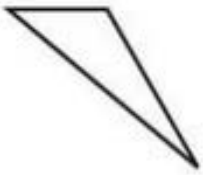
- $m\angle 2 =$ _____

Classifying Triangles

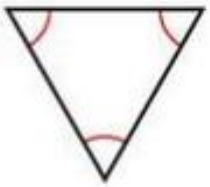


3 acute angles

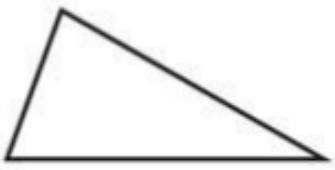
1 right angle



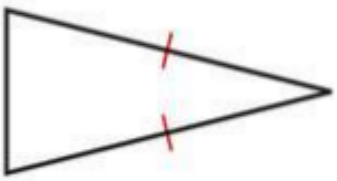
1 obtuse angle



3 congruent angles



No congruent sides



At least 2 congruent sides

3 congruent sides

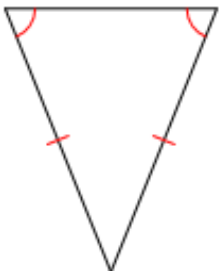
_____ _____ _____ _____

_____ _____ _____

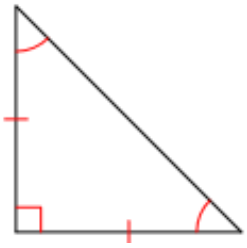
Classify each triangle below. Any congruent sides or angles are identified.

1) 

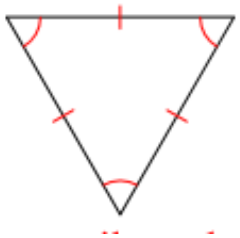
_____

2) 

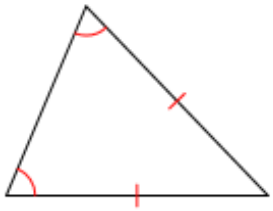
_____

3) 

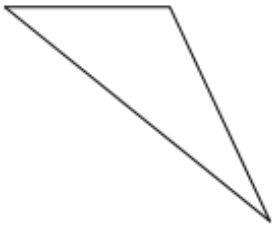
_____

4) 

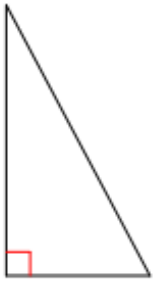
_____

5) 

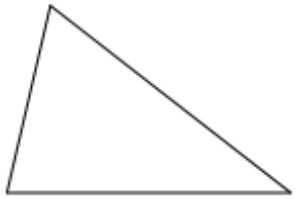
_____

6) 

_____

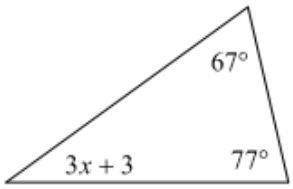
7) 

_____

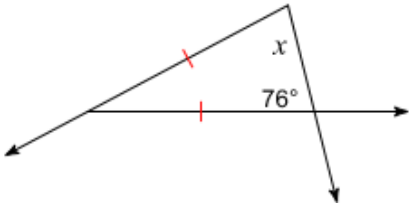
8) 

_____

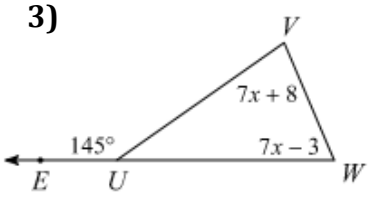
Find the value of x in each triangle below.

1) 

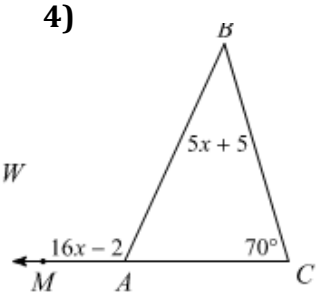
x=_____

2) 

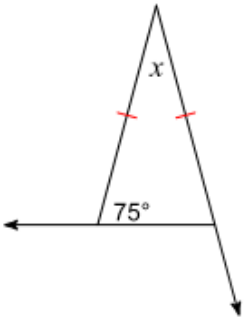
x=_____

3) 

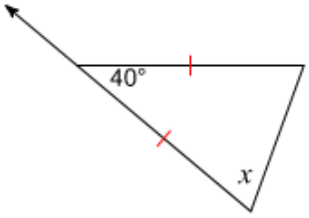
x=_____

4) 

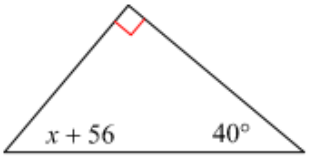
x=_____

5) 

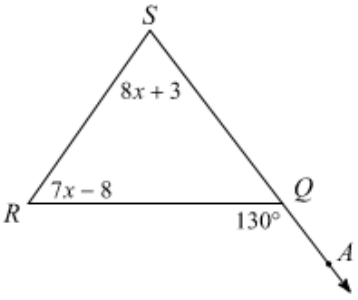
x=_____

6) 

x=_____

7) 

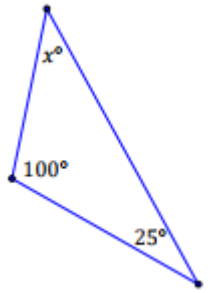
x=_____

8) 

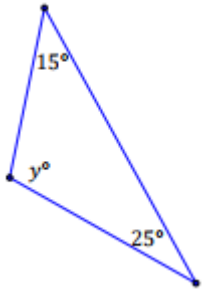
x=_____

Unit 4-Lesson 3: Classwork/Homework

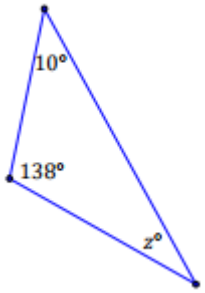
Solve for the missing variable

1. 

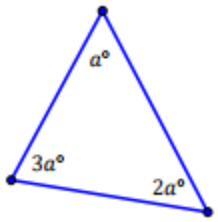
x=_____

2. 

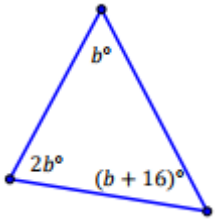
y=_____

3. 

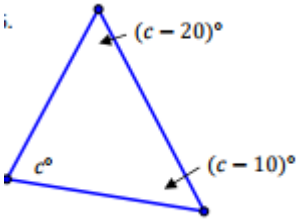
z=_____

4. 

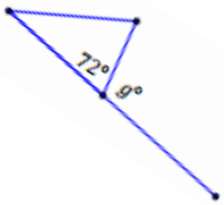
a=_____

5. 

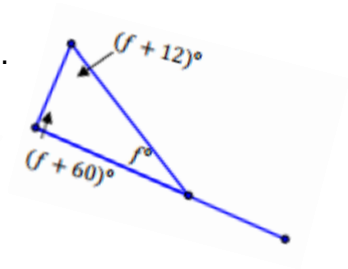
b=_____

6. 

c=_____

7. 

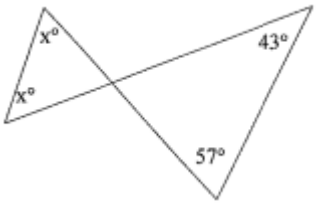
g=_____

8. 

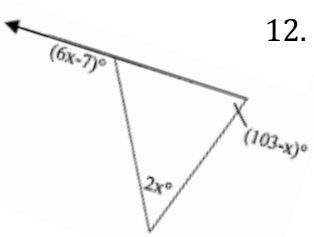
f=_____

9. 

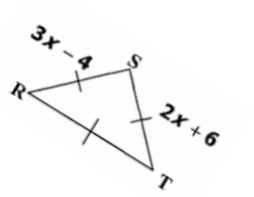
x=_____

10. 

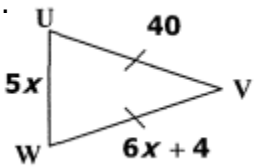
x=_____

11. 

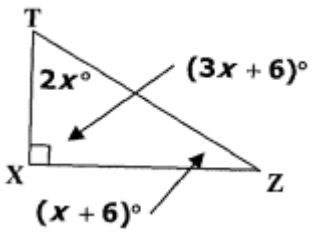
x=_____

12. 

x=_____

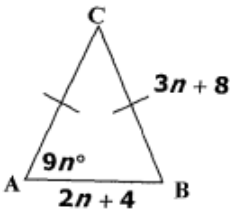
13. 

x=_____

14. 

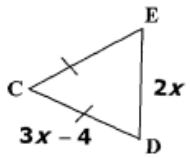
x=_____

15. perimeter = 84

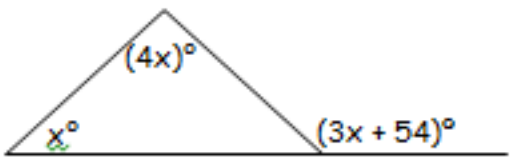


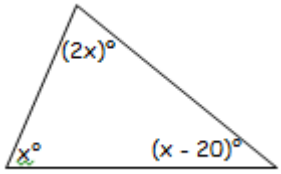
n=_____

16. $\overline{CE} + \overline{ED} + \overline{DC} = 88$



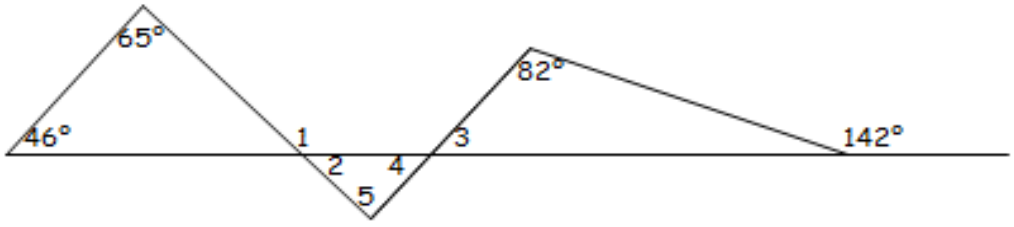
x=_____

17. 

18. 

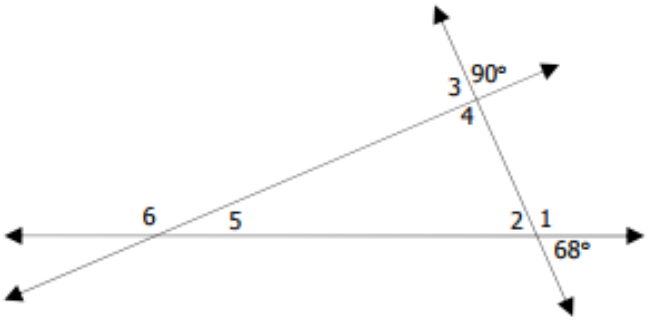
x=_____ x=_____

19.



$m\angle 1 =$ _____ $m\angle 2 =$ _____ $m\angle 3 =$ _____ $m\angle 4 =$ _____ $m\angle 5 =$ _____

20.

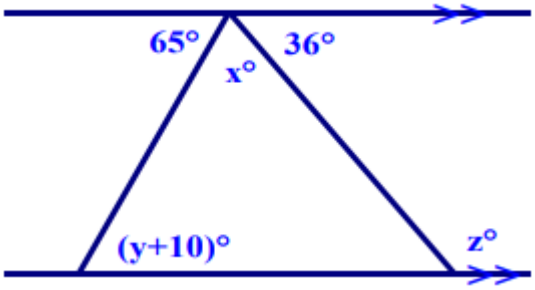


$m\angle 1 =$ _____ $m\angle 2 =$ _____

$m\angle 3 =$ _____ $m\angle 4 =$ _____

$m\angle 5 =$ _____ $m\angle 6 =$ _____

21.

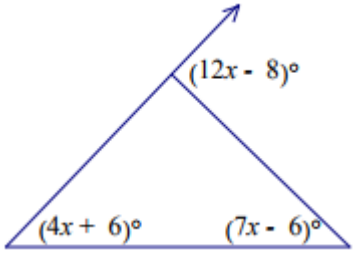


x=_____

y=_____

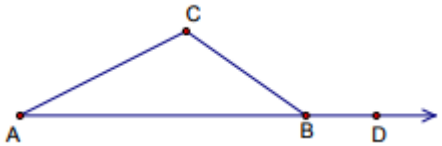
z=_____

22.



x=_____

23. In the diagram of ΔABC, $m\angle C = (x^2 + 5x - 10)^\circ$, $m\angle A = (3x)^\circ$, and $m\angle CBD = (6x + 89)^\circ$. Find $m\angle A$.



x=_____ $m\angle A =$ _____