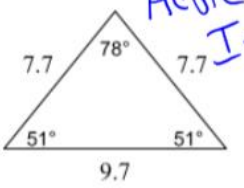
Geometry Name_____

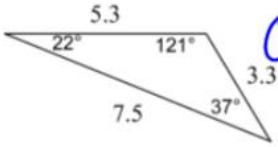
Review

Date_____ Period____

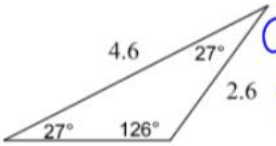
Classify each triangle by its angles and sides.

1) 

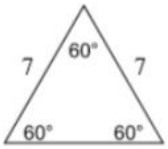
Acute Isosceles

2) 

Obtuse Scalene

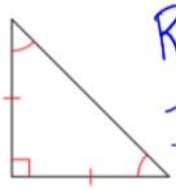
3) 

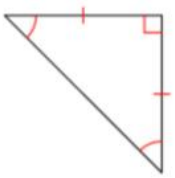
Obtuse Isosceles

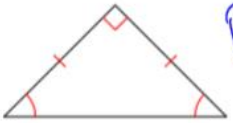
4) 

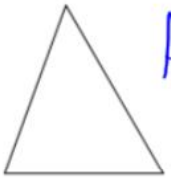
Equilateral Equiangular

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

5) 
Right Isosceles

6) 
Right Isosceles

7) 
Right Isosceles

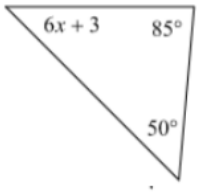
8) 
Acute Scalene

Sketch an example of the type of triangle described. Mark the triangle to indicate what information is known.

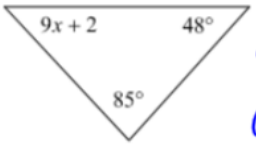
9) acute isosceles 

10) acute scalene 

Solve for *x*.

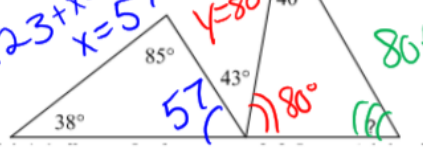
11) 

$85+50+6x+3=180$
$6x+138=180$
$6x=42$
$x=7$

12) 

$48+85+9x+2=180$
$9x+135=180$
$9x=45$
$x=5$

Find the measure of each angle indicated.

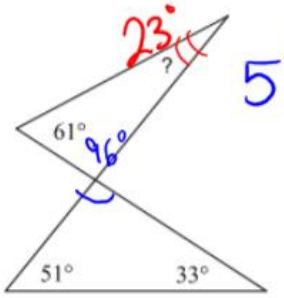
13) 

$38+85+x=180$
$123+x=180$
$x=57$
$57+43+y=180$
$100+y=180$
$y=80$
$80+40+z=180$
$120+z=180$
$z=60°$

14) 

$55+45+x=180$
$100+x=180$
$x=80$
$80+55+y=180$
$135+y=180$
$y=45$
$75+45+z=180$
$120+z=180$
$z=60°$

15)



$51+33+x=180$

$84+x=180$

$x=96°$

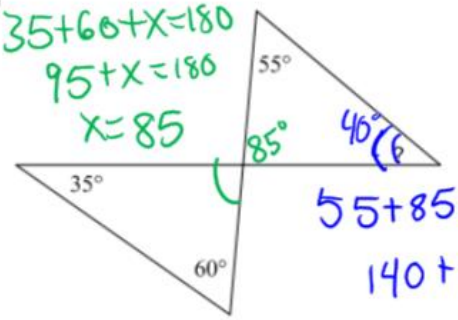
$96+61+y=180$

$157+y=180$

$y=23$

Find the measure of angle A.

16)



$35+60+x=180$

$95+x=180$

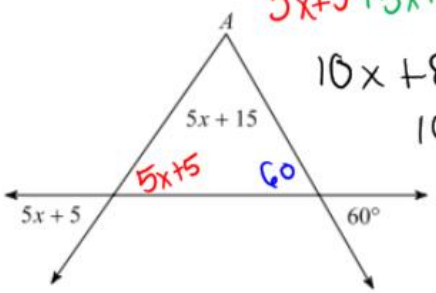
$x=85$

$55+85+y=180$

$140+y=180$

$y=40$

17)



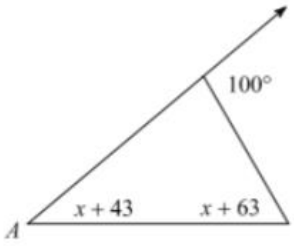
$5x+5+5x+15+60=180$

$10x+80=180$

$10x=100$

$x=10$

18)



$x+43+x+63=100$

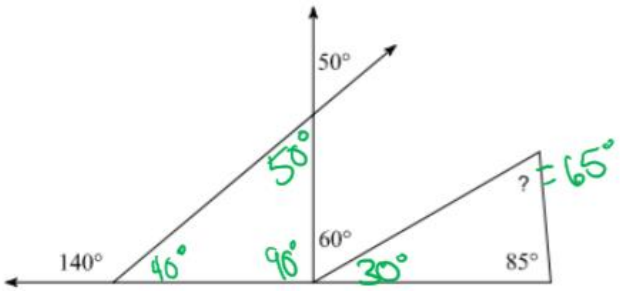
$2x+106=100$

$2x=-6$

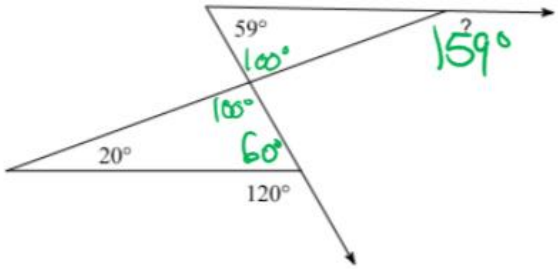
$x=-3$

Find the measure of each angle indicated.

19)



20)



Given: FLAG is a parallelogram

Prove: ∠F and ∠L are supplementary

∠L and ∠A are supplementary

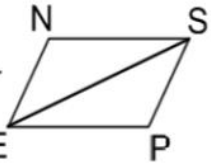
∠A and ∠G are supplementary

∠G and ∠F are supplementary

Statement	Reason
FLAG is a ▱	Given
$\overline{FL}\parallel\overline{AG}$ and $\overline{LA}\parallel\overline{FG}$	Def. of ▱
∠F and ∠L are supp.	Converse of Same Side Int. ∠'s Thm.
∠L and ∠A are supp.	
∠A and ∠G are supp.	
∠G and ∠F are supp.	

Given: PENS is a parallelogram

Prove: $\overline{PE}\cong\overline{NS}$ and $\overline{EN}\cong\overline{SP}$



Statement	Reason
PENS is a ▱	Given
$\overline{NE}\parallel\overline{SP}$ and $\overline{NS}\parallel\overline{PE}$	Def of ▱
∠PSE ≅ ∠NES	Alt. Int. ∠'s Thm.
∠PES ≅ ∠NSE	Alt. Int. ∠'s Thm.
$\overline{SE}\cong\overline{ES}$	Reflexive Property
△ENS ≅ △SPE	ASA
$\overline{PE}\cong\overline{NS}$ and $\overline{EN}\cong\overline{SP}$	CPCTC

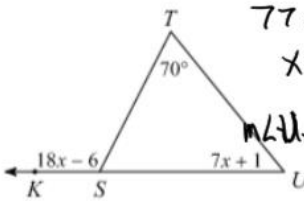
Find the measure of the angle indicated.

25) Find $m\angle U$. $7x+1+70 = 18x-6$

$7x+71 = 18x-6$

$77 = 11x$

$x = 7$

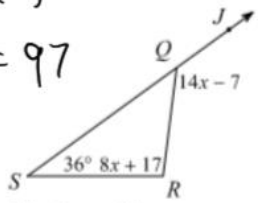


$m\angle U = 7(7)+1 = 50$

26) Find $m\angle R$.

$m\angle R = 8(10)+17$

$m\angle R = 97$



$36+8x+17 = 14x-7$

$8x+53 = 14x-7$

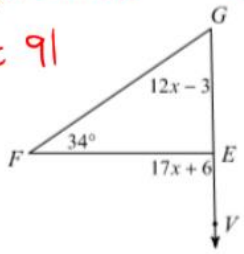
$60 = 6x$

$x = 10$

27) Find $m\angle VEF$.

$m\angle VEF = 17(5)+6$

$= 91$



$34+12x-3 = 17x+6$

$12x+31 = 17x+6$

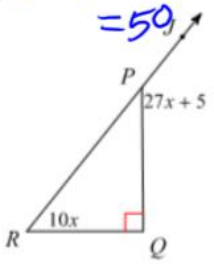
$25 = 5x$

$x = 5$

28) Find $m\angle R$.

$m\angle R = 10(5)$

$= 50$



$90+10x = 27x+5$

$85 = 17x$

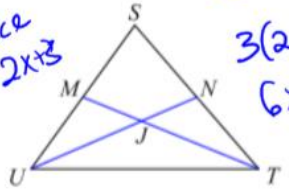
$x = 5$

Each figure shows a triangle with one or more of its medians.

29) Find x if $UJ = 4x+6$ and $UN = 9x-3$

2 piece 3 piece

2 piece: $2x+3$



$3(2x+3) = 9x-3$

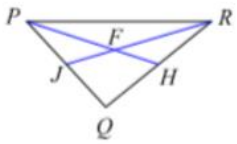
$6x+9 = 9x-3$

$12 = 3x$

$x = 4$

30) Find x if $RJ = 5x+8$ and $FJ = 2x+1$

3 piece 1 piece



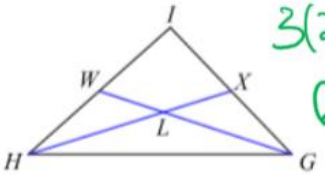
$3(2x+1) = 5x+8$

$6x+3 = 5x+8$

$x = 5$

31) Find x if $GW = 3x-3$ and $LW = 2x-4$

2 piece 1 piece



$3(2x-4) = 3x-3$

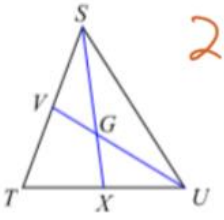
$6x-12 = 3x-3$

$3x = 9$

$x = 3$

32) Find x if $UG = x+1$ and $GV = x-2$

2 piece 1 piece



$2(x-2) = x+1$

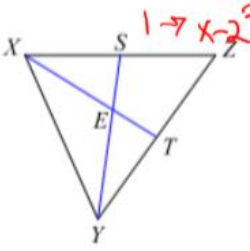
$2x-4 = x+1$

$x = 5$

33) Find XE if $XE = 2x-4$ and $XT = x+4$

2 piece 3 piece

1 piece $x-2$



$3(x-2) = x+4$

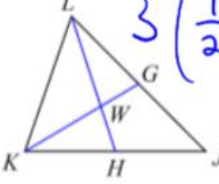
$3x-6 = x+4$

$2x = 10$

$x = 5$

34) Find WH if $LW = x-2$ and $LH = x+3$

2 piece 3 piece



$3\left(\frac{1}{2}x-1\right) = x+3$

$\frac{3}{2}x-3 = x+3$

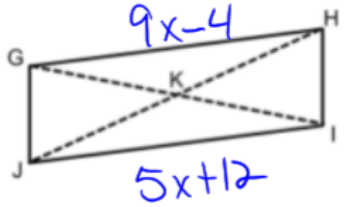
$\frac{3}{2}x = x+6$

$\frac{x}{2} = 6$

$x = 12$

GHIJ is a parallelogram. Find the value of each of the following variables.

. a. $\overline{GH} = 9x - 4$ and $\overline{JI} = 5x + 12$ (opp sides ≅)



$9x-4 = 5x+12$

$4x-4 = 12$

$4x = 16$

$x = 4$

b. $\angle HGJ = (11y + 68)^o$ and $\angle GHI = (13y + 4)^o$ (consecutive ∠s supp.)

$11y+68+13y+4 = 180$

$24y+72 = 180$

$24y = 108$

$y = 4.5$

c. $\angle GJI = (3w + 10)^o$ and $\angle IHG = (9w - 98)^o$ (opp ∠'s ≅)

$3w+10 = 9w-98$

$3w+108 = 9w$

$108 = 6w$

$w = 18$

d. $\overline{GK} = 3z + 2$ and $\overline{GI} = z + 34$ (1 and 2)

$2(3z+2) = z+34$

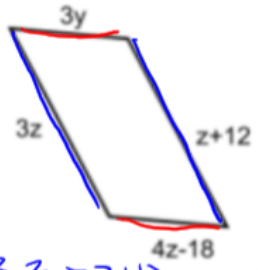
$6z+4 = z+34$

$5z+4 = 34$

$5z = 30$

$z = 6$

9. Determine the value of each variable that would make the following a parallelogram. Explain which converse property would make it a parallelogram.



$3z = z+12$

$2z = 12$

$z = 6$

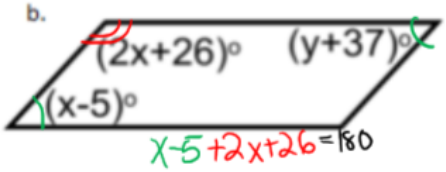
$4(6)-18 = 3y$

$24-18 = 3y$

$6 = 3y$

$y = 2$

b.



$x-5+2x+26 = 180$

$3x+21 = 180$

$3x = 159$

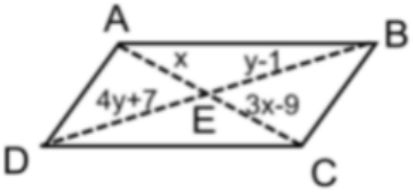
$x = 53$

$2(53)+26+y+37 = 180$

$y+169 = 180$

$y = 11$

c.



$x = 3x-9$

$-2x = -9$

$x = 4.5$

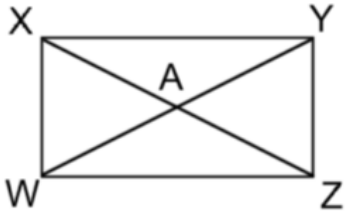
$4y+7 = y-1$

$3y+7 = -1$

$3y = -8$

$y = -8/3$

10. The following figure is a rectangle. Find the value of the given variable.



a. $\overline{XA} = 2x + 4$ and $\overline{WA} = 3x - 2$

$2x+4 = 3x-2$

$4 = x-2$

$x = 6$

b. $\overline{XZ} = 6x - 5$ and $\overline{YW} = 2x + 19$ (2 and 2)

$6x-5 = 2x+19$

$4x-5 = 19$

$4x = 24$

$x = 6$

c. $\overline{YA} = x + 3$ and $\overline{XZ} = 5x - 9$ (1 and 2)

$2(x+3) = 5x-9$

$2x+6 = 5x-9$

$6 = 3x-9$

$15 = 3x$

$x = 5$