

Name: Key

Date: _____

Period: _____

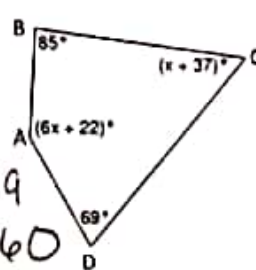
Module 7 Test Review

Find the Complement and supplement of each of the following angles:

- | | | |
|-----------|----------------------------------------------------------|-----------------------------------------|
| 1. 54 | Complement: <u>36</u> | Supplement: <u>126</u> |
| 2. 125 | Complement: <u>N/A</u> (^{10x} ₋₃₅) | Supplement: <u>55</u> |
| 3. $3x+5$ | Complement: $\frac{90-(3x+5)}{85-3x}$ | Supplement: $\frac{180-(3x+5)}{175-3x}$ |
| 4. $87-x$ | Complement: $\frac{90-(87-x)}{3+x}$ | Supplement: $\frac{180-(87-x)}{93+x}$ |
| 5. $x-87$ | Complement: $\frac{90-(x-87)}{177-x}$ | Supplement: $\frac{180-(x-87)}{267-x}$ |

Find x and all of the angle measures or sides:

6. $x = \underline{21}$
 $m\angle A = \underline{148}$
 $m\angle C = \underline{58}$



$$85 + x + 37 + 6x + 22 + 69 = 360$$

$$7x + 213 = 360$$

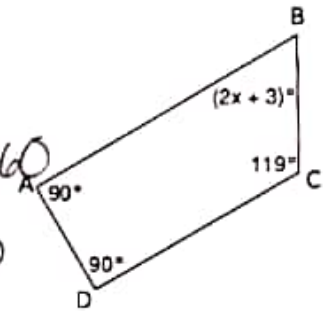
$$7x = 147$$

9. $x = \underline{29}$
 $m\angle B = \underline{61}$

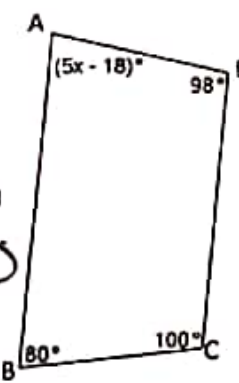
$$90 + 90 + 119 + 2x + 3 = 360$$

$$302 + 2x = 360$$

$$2x = 58$$



7. $x = \underline{20}$
 $m\angle A = \underline{82}$

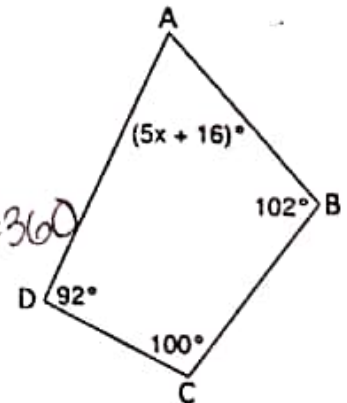


$$5x - 18 + 98 + 80 + 100 = 360$$

10. $x = \underline{10}$
 $m\angle A = \underline{66}$

$$5x + 16 + 102 + 100 + 92 = 360$$

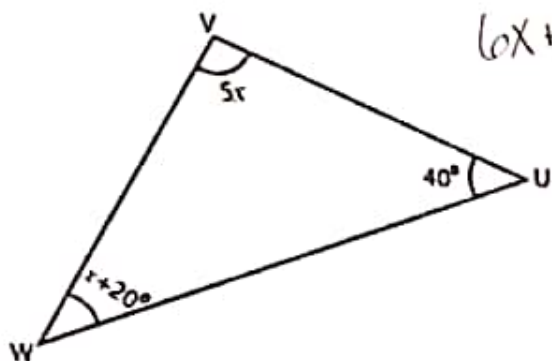
$$5x + 310 = 360$$



$$\begin{aligned} \angle V &= \underline{100} \\ m\angle W &= \underline{40} \\ m\angle U &= \underline{40} \end{aligned}$$

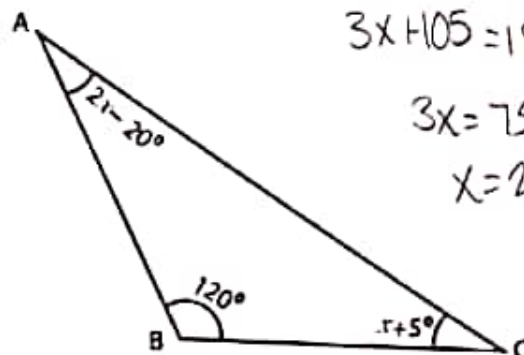
$$\boxed{x=20}$$

$$\begin{aligned} 5x + 40 + x + 40 &= 180 \\ 6x + 80 &= 180 \end{aligned}$$

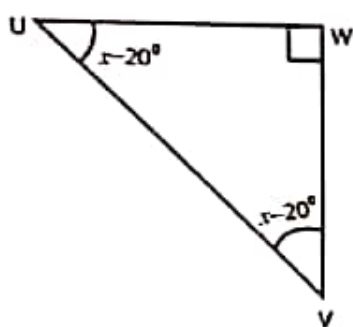


$$\begin{aligned} m\angle A &= \underline{30} \\ m\angle B &= \underline{120} \\ m\angle C &= \underline{30} \end{aligned}$$

$$\begin{aligned} 2x - 20 + 120 + x + 5 &= 180 \\ 3x + 105 &= 180 \\ 3x &= 75 \\ x &= 25 \end{aligned}$$

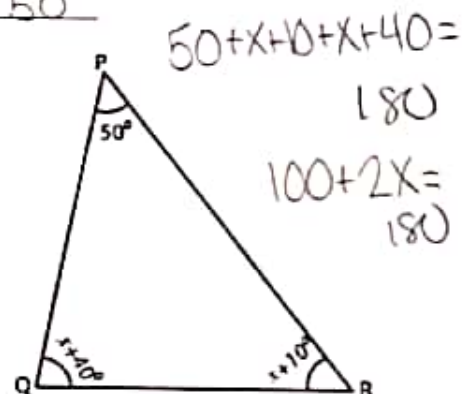


$$\begin{aligned} 18. x &= \underline{65} \\ m\angle V &= \underline{45} \\ m\angle W &= \underline{90} \\ m\angle U &= \underline{45} \end{aligned}$$



$$\begin{aligned} x - 20 + x - 20 + 90 &= 180 \\ 2x + 50 &= 180 \end{aligned}$$

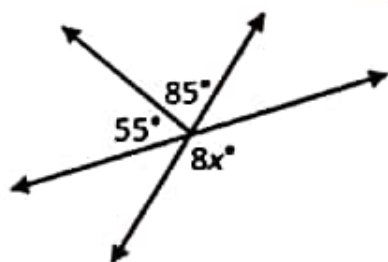
$$\begin{aligned} 21. x &= \underline{40} \\ m\angle P &= \underline{50} \\ m\angle Q &= \underline{80} \\ m\angle R &= \underline{50} \end{aligned}$$



$$\begin{aligned} 50 + x + 40 + x + 10 &= 180 \\ 100 + 2x &= 180 \end{aligned}$$

$$\begin{aligned} 19. x &= \underline{17.5} \\ 8x &= \underline{140} \end{aligned}$$

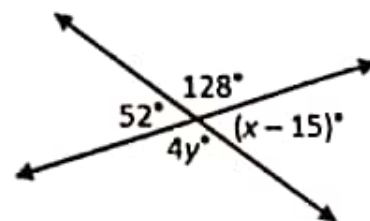
$$8x = 140$$



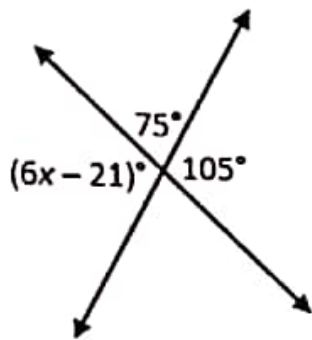
$$\begin{aligned} 22. x &= \underline{67} \\ y &= \underline{32} \\ x - 15 &= \underline{52} \\ 4y &= \underline{128} \end{aligned}$$

$$52 = x - 15$$

$$4y = 128$$



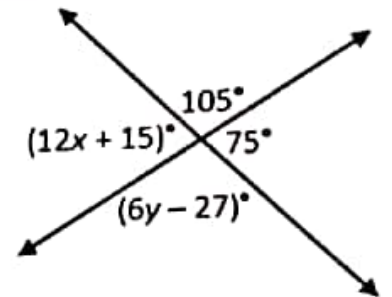
20. $x = \underline{21}$
 $6x - 21 = \underline{105}$



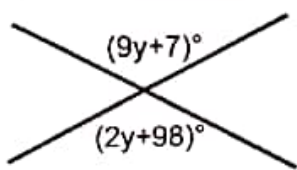
$6x - 21 = 105$

23. $x = \underline{5}$
 $y = \underline{22}$
 $12x + 15 = \underline{75}$
 $6y - 27 = \underline{105}$

$12x + 15 = 75$
 $105 = 6y - 27$

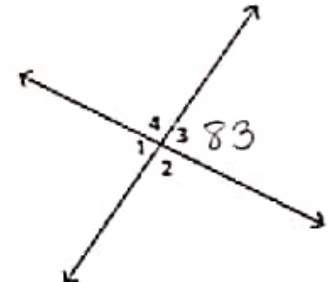


21. $y = \underline{13}$
 $m\angle 1 = \underline{\hspace{2cm}}$
 $9y + 7 = \underline{124}$
 $2y + 98 = \underline{\hspace{2cm}}$

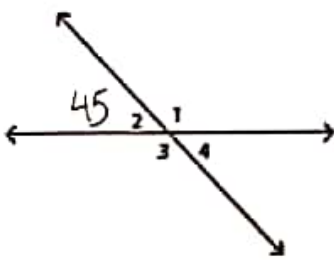


$9y + 7 = 2y + 98$
 $7y = 91$

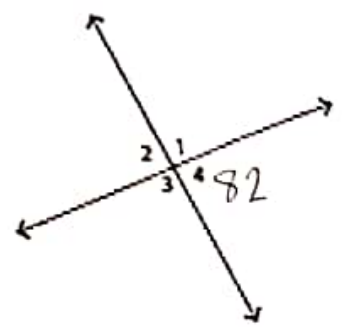
24.
 $m\angle 1 = \underline{83}$
 $m\angle 2 = \underline{97}$
 $m\angle 3 = 83^\circ$
 $m\angle 4 = \underline{97}$



22. $m\angle 1 = \underline{135}$
 $m\angle 2 = 45^\circ$
 $m\angle 3 = \underline{135}$
 $m\angle 4 = \underline{45}$



25. $m\angle 1 = \underline{98}$
 $m\angle 2 = \underline{82}$
 $m\angle 3 = \underline{98}$
 $m\angle 4 = 82^\circ$

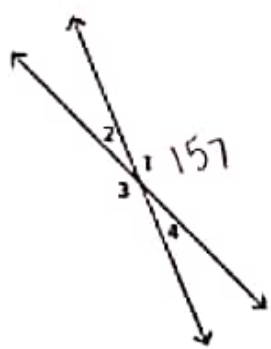


3. $m\angle 1 = 157^\circ$

$m\angle 2 = 23$

$m\angle 3 = 157$

$m\angle 4 = 23$



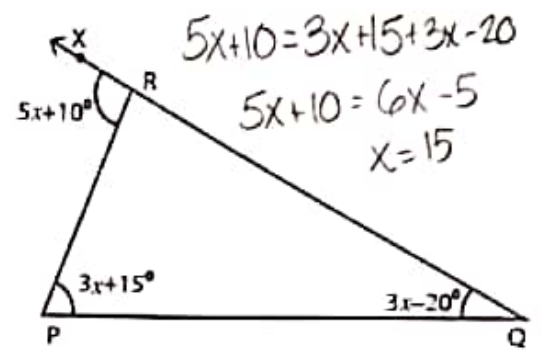
26. $x = 15$

$m\angle XRP = 85$

$m\angle RPQ = 60$

$m\angle RQP = 25$

$m\angle PRQ = 95$

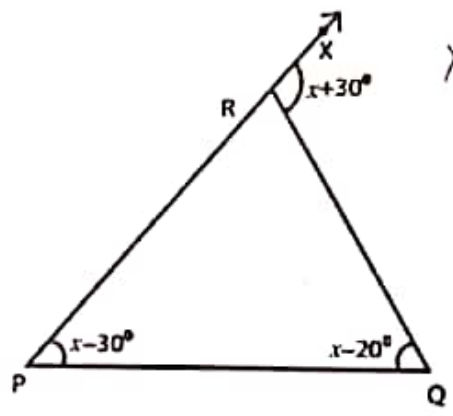


27.

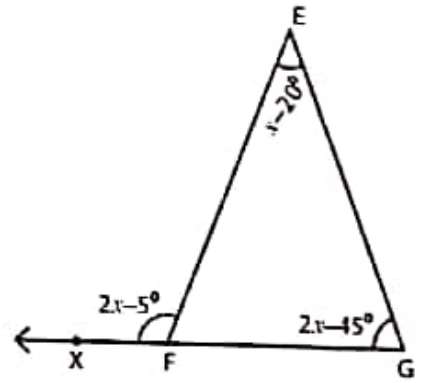
$x =$
30. $x =$

$x = 90$
 $m\angle XRQ = 110$
 $m\angle RPQ = 50$
 $m\angle RQP = 60$
 $m\angle PRQ = 70$

$x = 60$
 $m\angle XFE = 115$
 $m\angle EFG = 65$
 $m\angle EGF = 75$
 $m\angle FEG = 40$

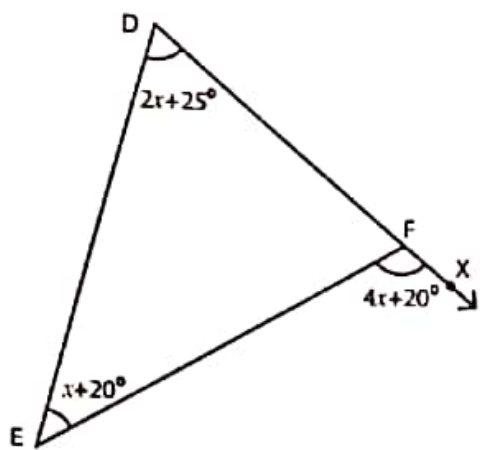


$x+30 = x-20 + x-30$
 $x+30 = 2x-50$
 $x = 80$



$2x-5 = x-20 + 2x-45$
 $2x-5 = 3x-65$
 $x = 60$

$\therefore x = \underline{25}$
 $m\angle XFE = \underline{120}$
 $m\angle EFD = \underline{60}$
 $m\angle EDF = \underline{75}$
 $m\angle FED = \underline{45}$



$4x+20 = 2x+25+x+20$
 $4x+20 = 3x+45$
 $x = 25$

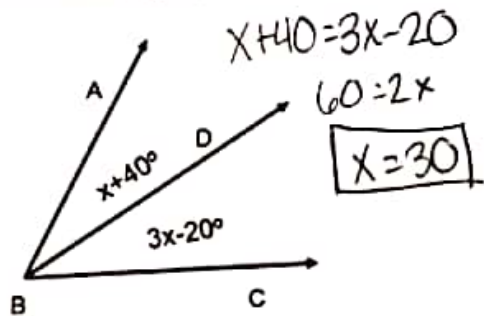
29. Be able to match all of the properties of each quadrilateral:

- a. Quadrilateral
- b. Trapezoid
- c. Isosceles Trapezoid
- d. Parallelogram
- e. Rhombus
- f. Rectangle
- g. Square

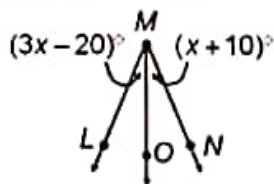
} your in 7.6 notes!

30. Find the value of x:

a. \overline{BD} bisects $\angle ABC$

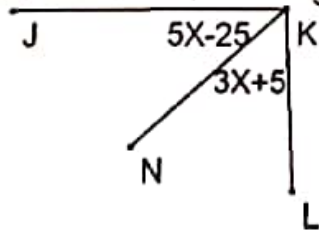


b. \overline{MO} bisects $\angle LMN$



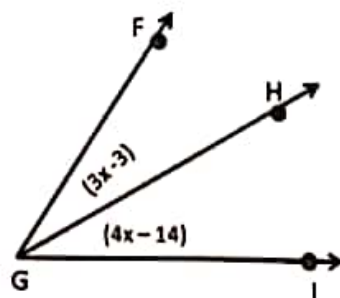
$3x-20 = x+10$
 $2x = 30$
 $x = 15$

c. \overline{NK} bisects $\angle LKJ$



$5x-25 = 3x+5$
 $2x = 30$
 $x = 15$

d. \overline{GH} bisects $\angle FGI$



$3x-3 = 4x-14$
 $x = 11$

31. $x \parallel t$ and $k \parallel w$. Find the angle measures.

a. $m\angle 1 = 46$

b. $m\angle 2 = 134$

c. $m\angle 3 = 46$

d. $m\angle 4 = 134$

e. $m\angle 5 = 46$

f. $m\angle 6 = 134$

g. $m\angle 7 = 46$

h. $m\angle 8 = 134$

i. $m\angle 9 = 46$

j. $m\angle 10 = 134$

k. $m\angle 11 = 46$

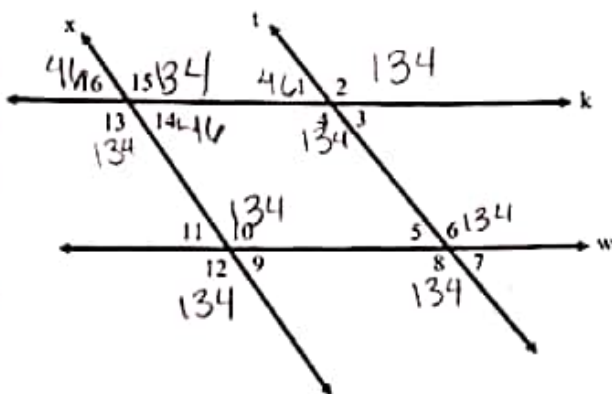
l. $m\angle 12 = 134$

m. $m\angle 13 = 134$

n. $m\angle 14 = 46$

o. $m\angle 15 = 134$

p. $m\angle 16 = 46$



32. Find x if $m\angle 2 = 10x - 10$ and $m\angle 13 = 8x + 28$.

$$10x - 10 = 8x + 28$$

$$2x = 38$$

$x = 19$

33. Find x if $m\angle 2 = 10x - 10$ and $m\angle 5 = 8x + 12$.

$$10x - 10 + 8x + 12 = 180$$

$$18x + 2 = 180$$

$x = 9.9$

34. Name the transversal for angles:

a. 13 and 1

b. 11 and 7

c. 7 and 4

d. 16 and 10

K

W

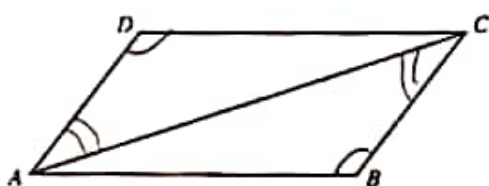
T

X

39. Proofs!

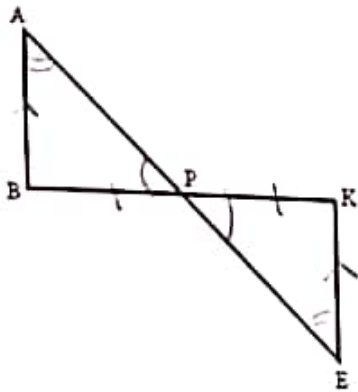
a. Given: $\angle D \cong \angle B$ and $\angle DAC \cong \angle BCA$

Prove: $\overline{AD} \cong \overline{BC}$



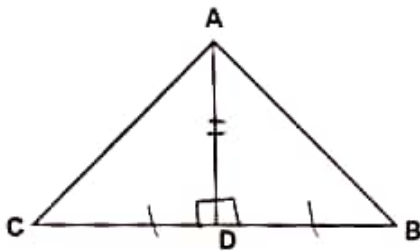
Statements	Reasons
$\angle D \cong \angle B$	GIVEN
$\angle DAC \cong \angle BCA$	
$\overline{AC} \cong \overline{CA}$	Reflexive
$\triangle ADC \cong \triangle CBA$	AAS
$\overline{AD} \cong \overline{BC}$	C.P.C.T.C

- b. Given: $\overline{AB} \parallel \overline{EK}$ and \overline{AE} bisects \overline{BK}
 Prove: $\overline{AB} \cong \overline{EK}$



Statements	Reasons
$AB \parallel EK$	GIVEN
AE bisects BK	
$\overline{BP} \cong \overline{PK}$	Definition of bisect
$\angle A \cong \angle E$ or $\angle B \cong \angle K$	Alternate Interior Angles
$\angle APB \cong \angle KPE$	Vertical Angles
$\triangle ABP \cong \triangle KEP$	ASA or AAS
$\overline{AB} \cong \overline{EK}$	CPCTC

- a. Given: \overline{AD} is a median for $\triangle ABC$ and \overline{AD} is an altitude for $\triangle ABC$
 Prove: $\angle C \cong \angle B$



Statements	Reasons
AD is a median and AD is an altitude	Given
$\overline{CD} \cong \overline{DB}$	Def. of median
$\angle ADC$ and $\angle ADB$ are right angles	Def. of Altitude
$\angle ADC \cong \angle ADB$	All rt angles are \cong
$\overline{AD} \cong \overline{AD}$	Reflexive
$\triangle ADC \cong \triangle ADB$	SAS
$\overline{AC} \cong \overline{AB}$	CPCTC

40. Solve for x:

