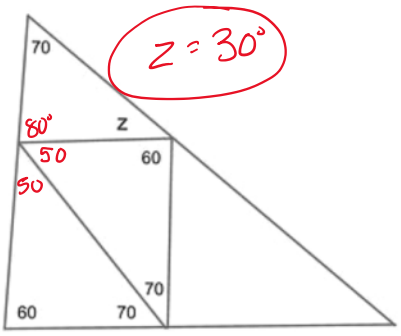
Unit 2 Review Name: _____ Block_____

Solve each question for the unknown variables. Show the equation you set up and your work to earn full credit!

1.



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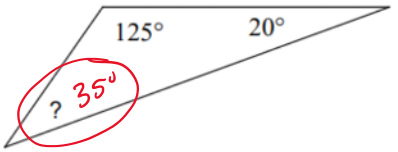

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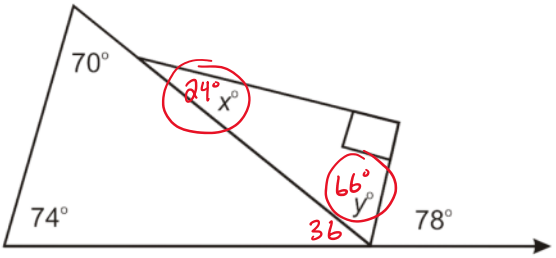
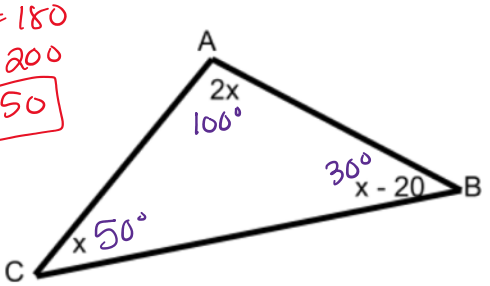


4. Find the value of x, m∠A, m∠B and m∠C

4x - 20 = 180
4x = 200
x = 50



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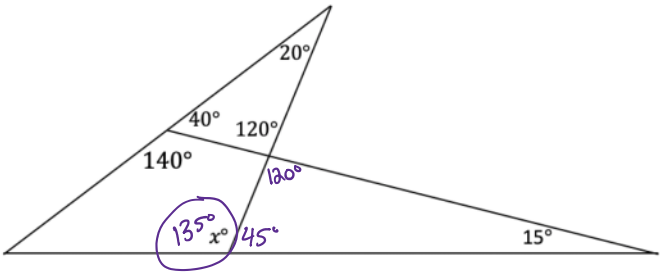

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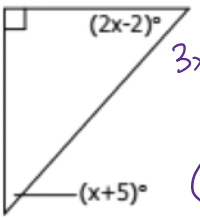
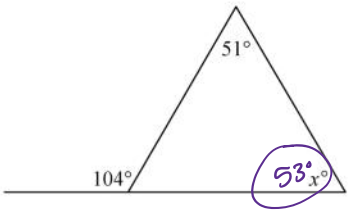


3x + 93 = 180
3x = 87
x = 29

7.

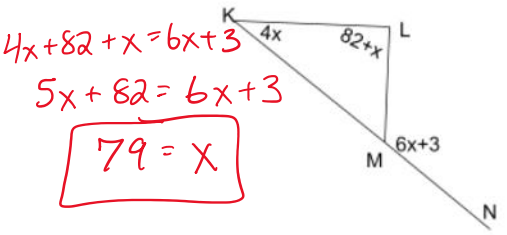


8.

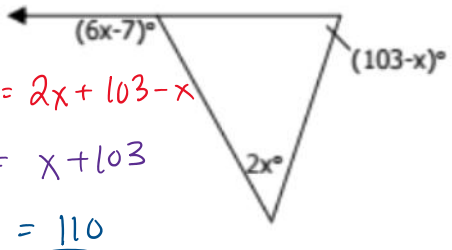
$4x+82+x=6x+3$

$5x+82=6x+3$

$79=x$



9.



$6x-7=2x+103-x$

$6x-7=x+103$

$5x=110$

$x=22$

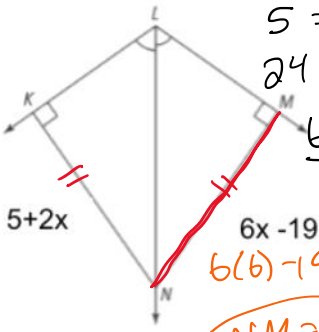
10. Solve for NM.

$5+2x=6x-19$

$5=4x-19$

$24=4x$

$6=x$



$6(6)-19=17$

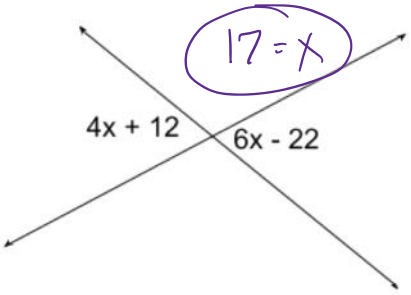
$NM=17$

11.

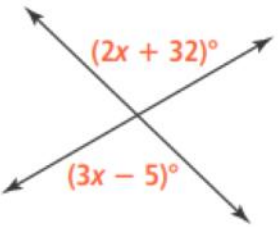
$4x+12=6x-22$

$34=2x$

$17=x$



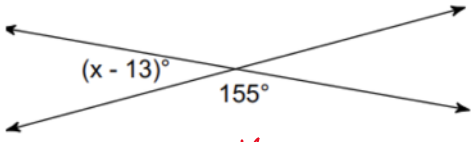
12.



$2x+32=3x-5$

$37=x$

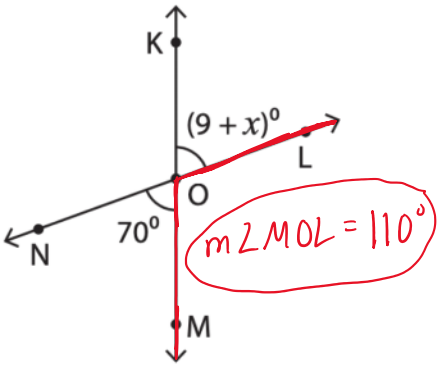
13.



$X + 142 = 180$

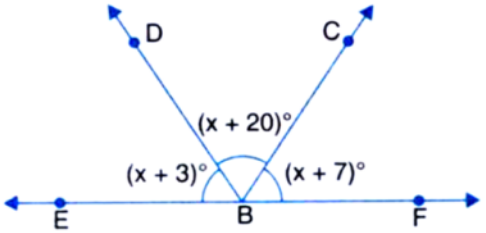
$X = 38$

14. Solve for m∠MOL



$m\angle MOL = 110°$

15.

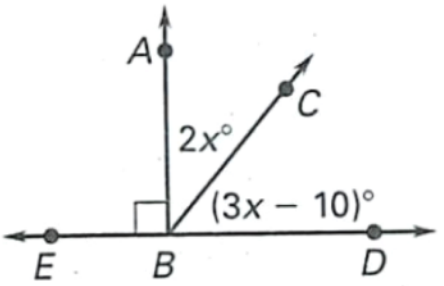


$3x + 30 = 180$

$3x = 150$

$x = 50$

16.



$5x + 80 = 180$

$5x = 100$

$x = 20$

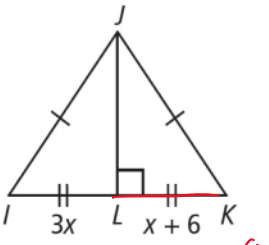
17. Which of the following statements must be true? Select all that apply.

- [x] $\overline{JL}$ bisects $\overline{IK}$.
- [ ] ΔIJK is equilateral.
- [x] $\overline{JL}$ is the perpendicular bisector of $\overline{IK}$.
- [x] KL = 9

$3x = x + 6$

$2x = 6$

$x = 3$



$3 + 6 = 9$

18. Which statements must be true? Select all that apply.

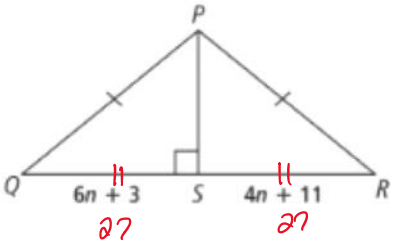
- [x] n=7
- [ ] QS=21
- [x] SR=27
- [x] QR=54

$6n+3=4n+11$

$2n+3=11$

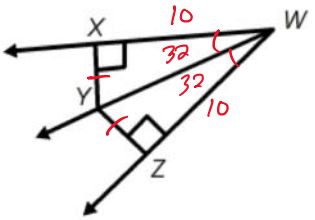
$2n=8$

$n=4$



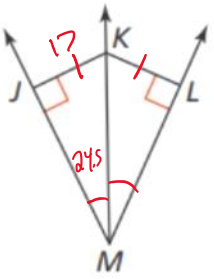
19. In the figure below, ray WY is an angle bisector of angle XWZ. If WX = 10, WZ = 10, and m<XWY = 32, what is m<ZWY?

$m\angle ZWY = 32°$



20. KL= 17

If $m\angle JML = 49$, $m\angle JMK = 24.5$, and $JK = 17$, then $KL =$ ■.



21. PR= _____

If $PS = 36$, $PQ = 3x + 5$, $QR = 6x - 10$, and $RS = 36$, then $PR =$ ■.

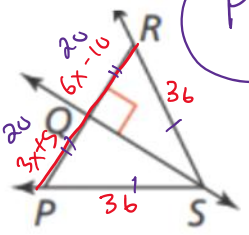
$3x+5=6x-10$

$5=3x-10$

$15=3x$

$5=x$

PR = 40



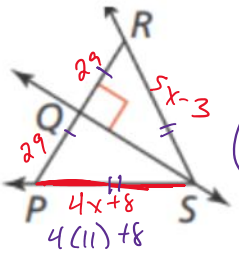
22. PS= _____

If $PS = 4x + 8$, $PQ = 29$, $RS = 5x - 3$, and $QR = 29$, then $PS =$ ■.

$5x-3=4x+8$

$x-3=8$

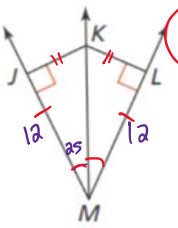
$x=11$



PS = 52

23. m<KML= _____

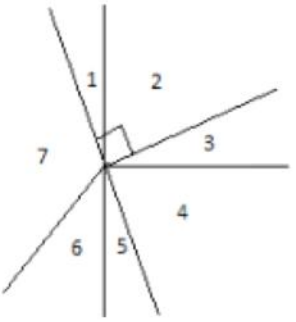
If $JM = 12$, $LM = 12$, and $m\angle JMK = 25$, then $m\angle KML =$ ■.



m∠KML=25°

24. Which of the following are supplementary in the figure?

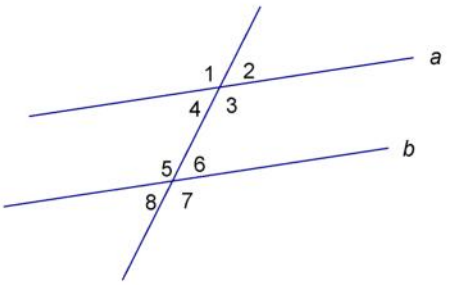
- ☐ ∠1 and ∠6
- ☐ ∠1 and ∠2
- ☐ ∠1 and ∠5
- ■ ∠1, ∠6, and ∠7



25. What angle pairs are congruent? $\angle 1 \cong \angle 5$

26. What angle pairs are supplementary? $\angle 1+\angle 2+\angle 3+\angle 4$, $\angle 7+\angle 6+\angle 5$, $\angle 2+\angle 3+\angle 4+\angle 5$, $\angle 1+\angle 7+\angle 6$

27. For a-f Use the transversal to the right to help you answer.



a. ∠ 2 and ∠ 3 are a linear pair

b. ∠ 2 and ∠ 1 are a linear pair

c. ∠ 2 and ∠ 4 are vertical angles

d. ∠ 2 and ∠ 7 are same side exterior angles

e. ∠ 2 and ∠ 8 are alternate exterior angles

f. ∠ 2 and ∠ 6 are corresponding angles.

$2x+4 = 3x-7$

$11 = x$

28. If $m\angle 1 = (2x + 4)°$ *and* $m\angle 7 = (3x - 7)°$, find $m\angle 7$.

$3(11)-7$

$m\angle 7 = 26°$

29. If $m\angle 1 = (6x + 13)°$ *and* $m\angle 8 = (4x - 23)°$, find $m\angle 6$.

$4(6)-23$

$6x+13+4x-23=180$

$10x-10=180$

$x=19$

$\angle 8 \cong \angle 6$

$m\angle 6 = 53°$

30. If $m\angle 3 = (5x + 50)°$ *and* $m\angle 8 = (10x - 65)°$, find $m\angle 3$.

$5(13)+50$

$5x+50+10x-65=180$

$15x-15=180$

$x=13$

$\angle 6 \cong \angle 8$

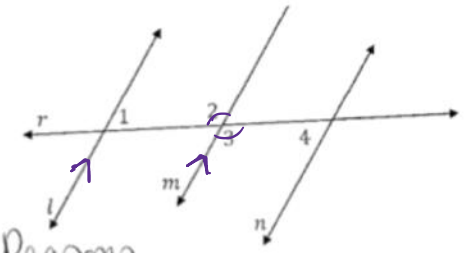
$m\angle 3 = 115°$

31.

Write a 2 column proof:

Given: $l \parallel m$, $m \parallel n$

Prove: $\angle 1$ is Supplementary to $\angle 3$.



Statements	Reasons
1. $l \parallel m$, $m \parallel n$	1. given
2. $\angle 1$ is Suppl. to $\angle 2$	2. same side int. $\angle$'s
3. $\angle 2 \cong \angle 3$	3. vertical angles
4. $\angle 1$ is Suppl. to $\angle 3$	4. transitive prop of equality