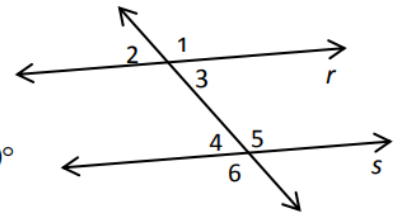
Name:_____ Period:_____

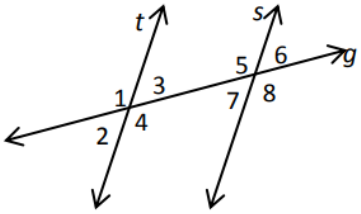
SM2H 7.1-7.4 Quiz Review

1. In the diagram line r is parallel to line s. Which of the following statements must be true?



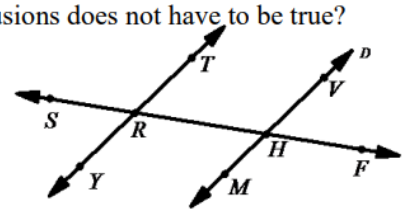
A. $m\angle 3 = m\angle 5$
B. $m\angle 5 = m\angle 4$
C. $m\angle 2 + m\angle 3 = 180°$
D. $m\angle 2 = m\angle 4$

2. Given: line t || line s and neither is perpendicular to line g. Which of the following statements is *false?*



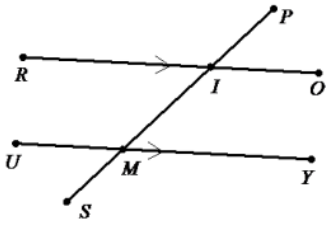
A. $m\angle 2 + m\angle 5 = 180°$
B. $m\angle 1 = m\angle 7$
C. $m\angle 3 + m\angle 5 = 180°$
D. $m\angle 2 = m\angle 3$

3. In the diagram $\overleftrightarrow{YT} \parallel \overleftrightarrow{MV}$ and $m\angle YRH = 100°$. Which of the following conclusions does not have to be true?



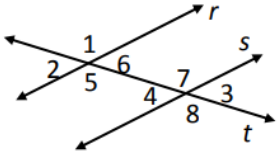
A. $m\angle MHF = 100°$
B. $m\angle RHM = 80°$
C. $\angle SRT$ and $\angle MHF$ are alternate exterior angles
D. $\angle SRY$ and $\angle RHV$ are alternate interior angles

4. Based on the diagram, which theorem or postulate would support the statement $m\angle RIP = m\angle SMY$?



A. Alternate Exterior Angles Theorem
B. Alternate Interior Angles Theorem
C. Consecutive Interior Angles Theorem
D. Corresponding $\angle s$ Postulate

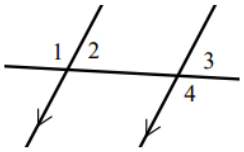
5. In the diagram below, $\angle 2 \cong \angle 3$. Which of the following must be true?



A. $r \perp t$
B. $m\angle 8 = m\angle 6$
C. $m\angle 4 = m\angle 6$
D. $m\angle 5 = m\angle$

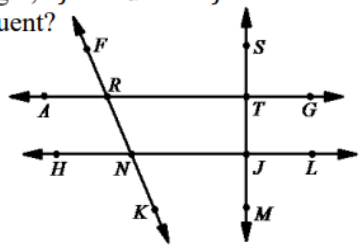
6. Which type of angles are a counterexample to the conjecture below?

"If two lines are parallel, then each pair of angles are supplementary".



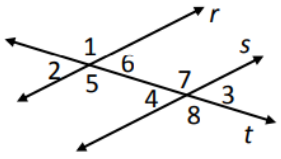
A. $\angle 1, \angle 2$
B. $\angle 3, \angle 1$
C. $\angle 4, \angle 2$
D. $\angle 1, \angle 4$

7. In the diagram to the right, $\overleftrightarrow{TJ} \perp \overleftrightarrow{AG}$ and $\overleftrightarrow{TJ} \perp \overleftrightarrow{HI}$ then which angles are congruent?



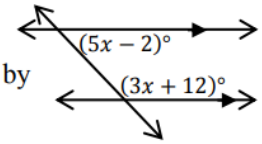
A. $\angle ARF, \angle NRA$
B. $\angle FRT, \angle RNH$
C. $\angle LNR, \angle ARN$
D. $\angle FRG, \angle KNJ$

8. In the diagram below, $m\angle 6 + m\angle 7 = 180°$. Which of the following does not have to be true?



A. $m\angle 1 + m\angle 4 = 180°$
B. $m\angle 5 + m\angle 4 = 180°$
C. $r \parallel s$
D. $m\angle 2 = m\angle 7$

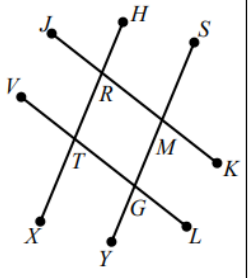
9. Allison wanted to solve for x, so she set up the equation $(5x - 2)° + (3x + 12)° = 180°$. What would her reasoning be?



"If two parallel lines are intersected by a transversal, then…

A. linear pairs are supplementary."
B. corresponding angles are supplementary."
C. alternate interior angles are congruent."
D. consecutive (same-side) interior angles are supplementary."

10. In the diagram below, which pair of angles are alternate interior angles?



A. $\angle TRM$ and $\angle TGM$
B. $\angle HTL$ and $\angle YGL$
C. $\angle JMG$ and $\angle SGL$
D. $\angle KRT$ and $\angle HTG$

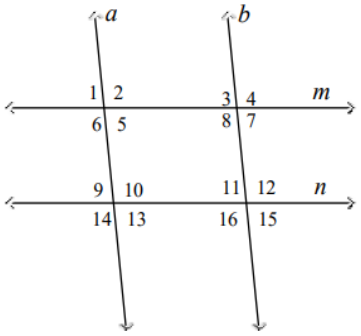
11. Use the diagram to determine which of the pair of angles is alternate exterior angles.

A. ∠1 and ∠15

B. ∠9 and ∠15

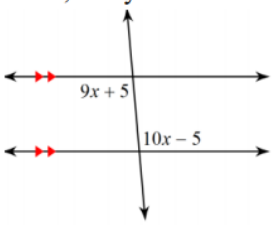
C. ∠4 and ∠11

D. ∠2 and ∠8



12. To solve for x in the diagram below, Betty used the equation $9x + 5 = 10x - 5$.

Betty can justify her equation by the following statement:



"If two parallel lines are intersected by a transversal, then ...

A. alternate interior angles are congruent.
B. alternate exterior angles are congruent.
C. corresponding angles are congruent.
D. consecutive interior angles are supplementary.

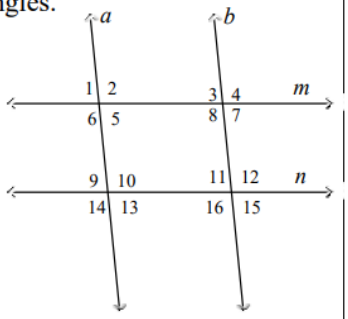
13. Use the diagram to determine which of the pair of angles is corresponding angles.

A. ∠2 and ∠10

B. ∠8 and ∠11

C. ∠4 and ∠10

D. ∠10 and ∠12



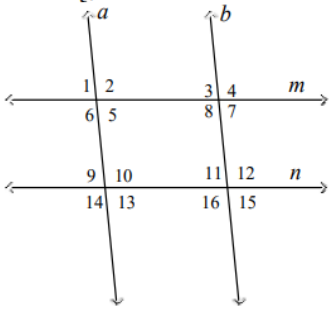
14. Use the diagram to determine which of the pair of angles is consecutive interior angles.

A. ∠3 and ∠11

B. ∠13 and ∠16

C. ∠9 and ∠13

D. ∠10 and ∠13



Fill in the blanks with the words below. (list all that apply)

adjacent angles *vertical angles* *Complementary* *linear pair* *Supplementary* *sum is 180°*

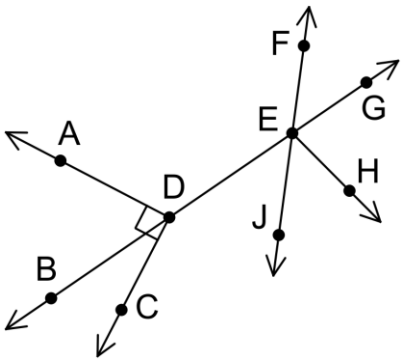
15. $\angle JEH$ and $\angle HEG$ _____

16. $\angle JEG$ and $\angle DEF$ _____

17. $\angle BDA$ and $\angle ADE$ _____

18. $\angle GEF$ and $\angle GEH$ and $\angle HEJ$ _____

19. $\angle CDB$ and $\angle ADB$ _____



Given that 2 parallel lines are cut by a transversal, fill in the blanks with an appropriate word.

20. Corresponding angles are _____

21. The same-side interior angles are _____

Answer each question based on the diagram at the right. List <u>all</u> possible answers.

linear pair *complementary angles* *vertical angles* *alternate interior angles* *adjacent*
alternate exterior angles *same-side interior angles* *corresponding angles* *supplementary*

22. How are ∠1 and ∠2 related?

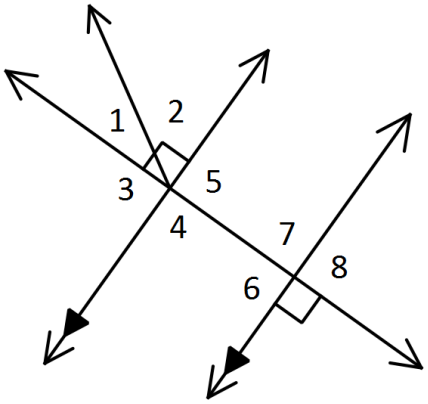
23. How are ∠6 and ∠7 related?

24. How are ∠3 and ∠8 related?

25. How are ∠3 and ∠6 related?

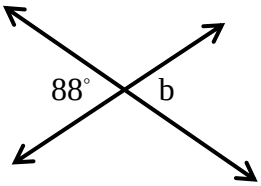
26. How are ∠4 and ∠7 related?

27. How are ∠5 and ∠7 related?



Find $m\angle b$ in each diagram. Explain your reasoning (state the postulate or theorem that justifies your answer).

28.



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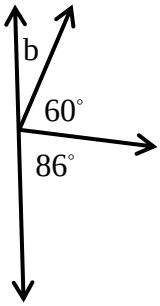

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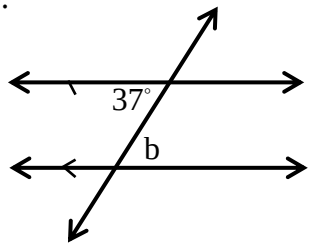

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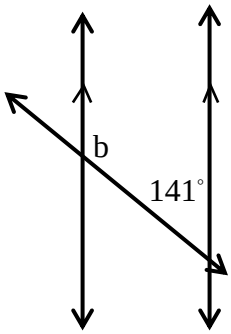
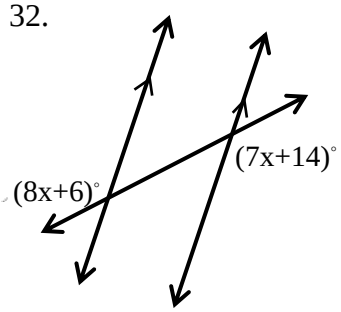


b =_____ *b* =_____ *b* =_____ *b* =_____

by _____ by _____ by _____ by _____

Solve for *x*. Show your work if you want full credit.

32.



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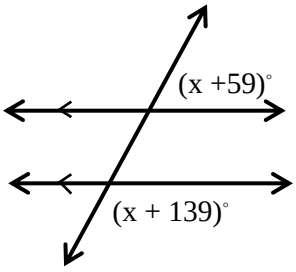

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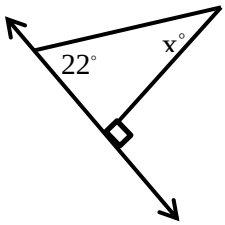
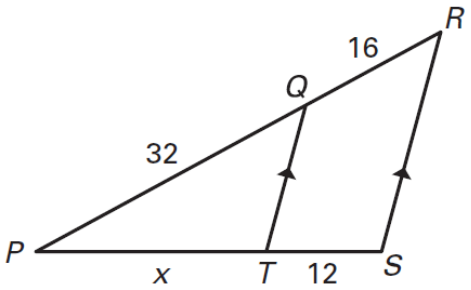


x = _____ *x* = _____ *x* = _____

Find the value of the variable.

35.



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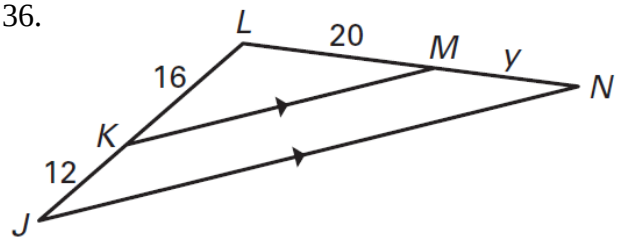

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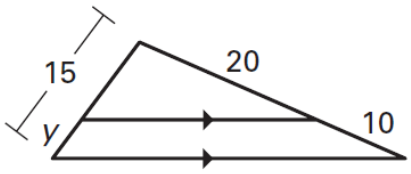

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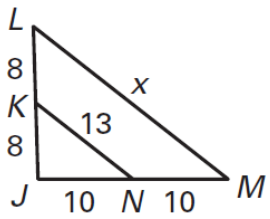

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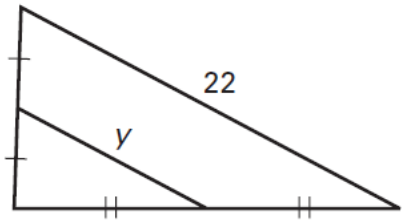

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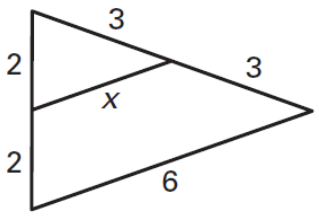
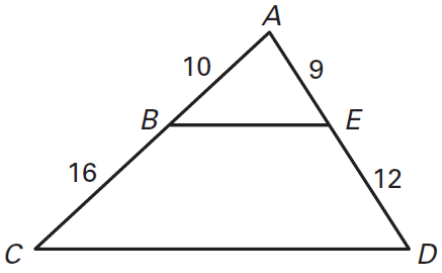
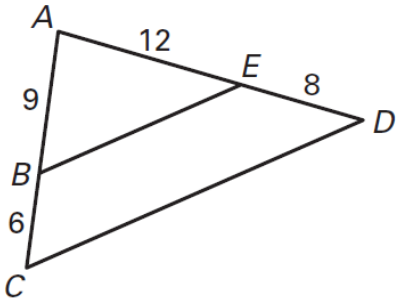


Determine whether $\overline{BE} \parallel \overline{CD}$. Show some work to justify your answer.

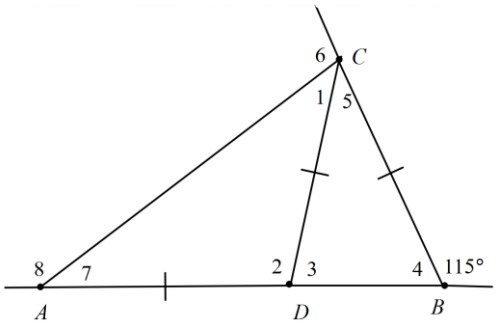
41.



42.



43. **Find the missing angle measures.**



$m\angle 1 =$ _____ $m\angle 5 =$ _____

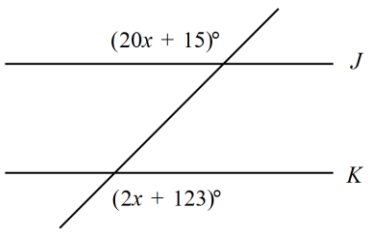
$m\angle 2 =$_____ $m\angle 6 =$_____

$m\angle 3 =$_____ $m\angle 7 =$_____

$m\angle 4 =$_____ $m\angle 8 =$_____

Find the value of *x* that makes *J* || *K*. Explain your reasoning (state the postulate or theorem that justifies your answer).

44.

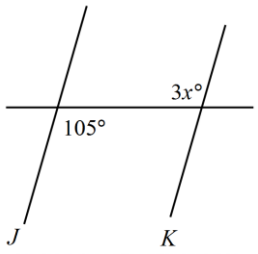


$x =$_____

Explain

_____

45.

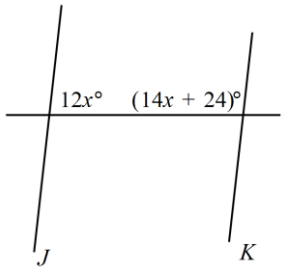


$x =$_____

Explain

_____

46.

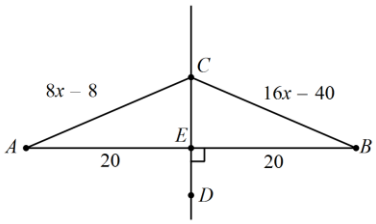


$x =$_____

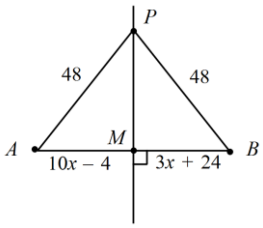
Explain

_____

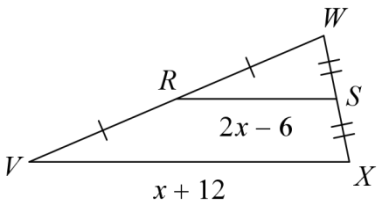
47. Find *x* and *AC*.



48. Find *x*, *AM* and *MB*



49. Find x. Show your work!



50. If $\overline{MP} = \overline{PN}$ and $\overline{LO} = \overline{ON}$, find *LM*.