

Name \_\_\_\_\_

Date \_\_\_\_\_

Parallel Lines and Transversals

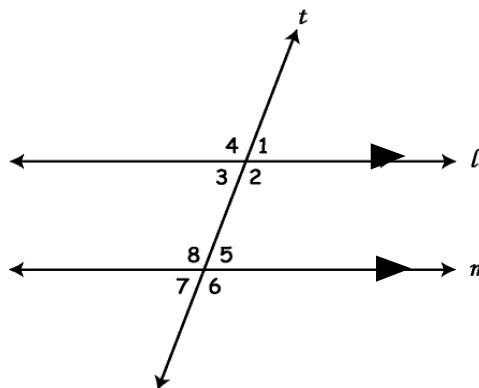
1. IF TWO PARALLEL LINES ARE CUT BY A TRANSVERSAL, THEN:

- Alternate Interior Angles are \_\_\_\_\_.
- Alternate Exterior Angles are \_\_\_\_\_.
- Corresponding Angles are \_\_\_\_\_.
- Consecutive Interior Angles are \_\_\_\_\_.

2. Find the measurement of the indicated angle.

(treat each question independently)

- a) If  $m\angle 1 = 58^\circ$ , find  $m\angle 5$ .
- b) If  $m\angle 8 = 106^\circ$ , find  $m\angle 2$ .
- c) If  $m\angle 1 = 67^\circ$ , find  $m\angle 7$ .
- d) If  $m\angle 3 = 3x - 7$  and  $m\angle 8 = 6x - 2$ , find  $m\angle 3$ .



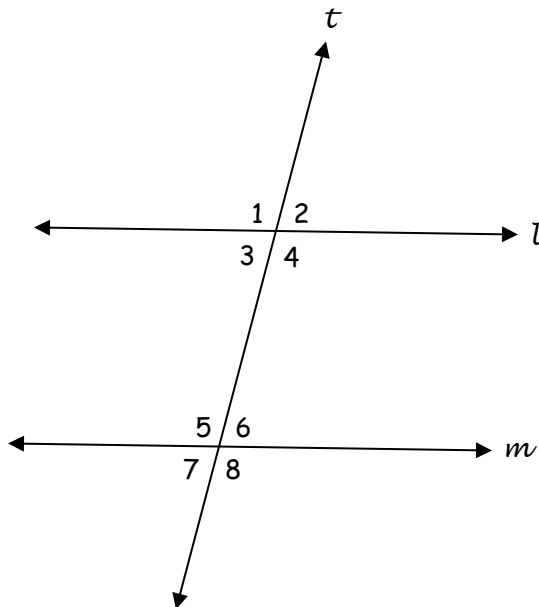
3. Using the figure above. If  $m\angle 1 = 47^\circ$ , find the measures of all other angles.

$m\angle 2 =$  \_\_\_\_\_     $m\angle 6 =$  \_\_\_\_\_     $m\angle 3 =$  \_\_\_\_\_     $m\angle 7 =$  \_\_\_\_\_

$m\angle 4 =$  \_\_\_\_\_     $m\angle 8 =$  \_\_\_\_\_     $m\angle 5 =$  \_\_\_\_\_

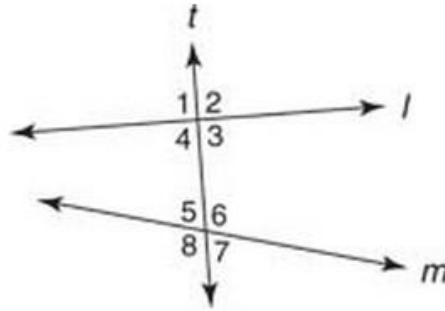
$l \parallel m$ . Find the measure of each angle and provide the angle pair name. Treat each problem independently.

- 4. If  $m\angle 1 = 120^\circ$ , find  $m\angle 5 =$  \_\_\_\_\_
  - $\angle$  pair name: \_\_\_\_\_
- 5. If  $m\angle 6 = 72^\circ$ , find  $m\angle 4 =$  \_\_\_\_\_
  - $\angle$  pair name: \_\_\_\_\_
- 6. If  $m\angle 2 = 64^\circ$ , find  $m\angle 8 =$  \_\_\_\_\_
  - $\angle$  pair name: \_\_\_\_\_
- 7. If  $m\angle 4 = 112^\circ$ , find  $m\angle 5 =$  \_\_\_\_\_
  - $\angle$  pair name: \_\_\_\_\_
- 8. If  $m\angle 2 = 82^\circ$ , find  $m\angle 7 =$  \_\_\_\_\_
  - $\angle$  pair name: \_\_\_\_\_
- 9. If  $m\angle 2 = 80^\circ$ , find  $m\angle 5 =$  \_\_\_\_\_
  - $\angle$  pair name: \_\_\_\_\_



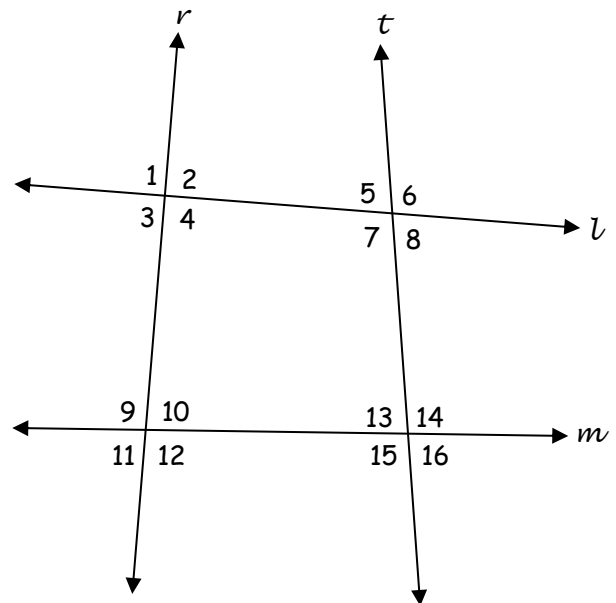
10. Use the figure to identify a pair of angles.

- Alternate Exterior Angles
- Corresponding Angles
- Alternate Interior Angles
- Consecutive Interior Angles
- Vertical Angles
- Linear Pair



11. Identify the angle pair name for each angle pair and name the pair's transversal.

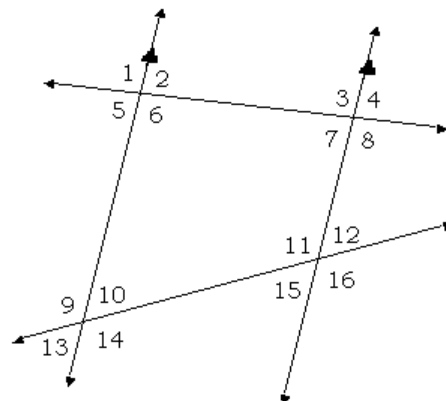
- $\angle 1$  and  $\angle 4$  \_\_\_\_\_
- $\angle 13$  and  $\angle 10$  \_\_\_\_\_
- $\angle 5$  and  $\angle 13$  \_\_\_\_\_
- $\angle 12$  and  $\angle 16$  \_\_\_\_\_
- $\angle 11$  and  $\angle 14$  \_\_\_\_\_
- $\angle 2$  and  $\angle 7$  \_\_\_\_\_
- $\angle 7$  and  $\angle 8$  \_\_\_\_\_



12. In the figure,  $m\angle 3 = 110$  and  $m\angle 12 = 55$ .

Find the measure of each angle.

- $\angle 1$
- $\angle 6$
- $\angle 2$
- $\angle 10$
- $\angle 13$
- $\angle 15$



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In the figure,  $m\angle 3 = 102$ . Find the measure of each angle.

1.  $\angle 5$

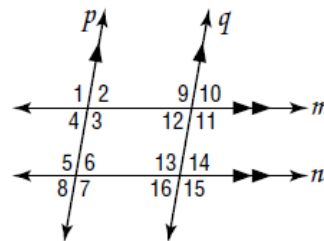
2.  $\angle 6$

3.  $\angle 11$

4.  $\angle 7$

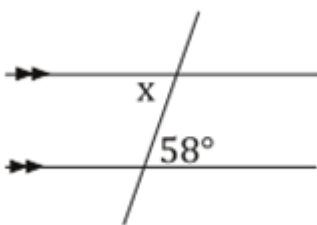
5.  $\angle 15$

6.  $\angle 14$

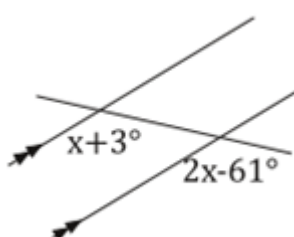


In the following problems, find x.

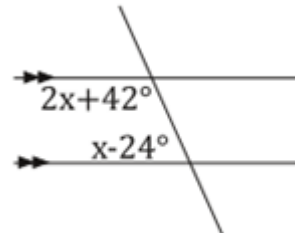
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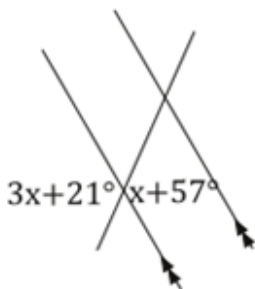
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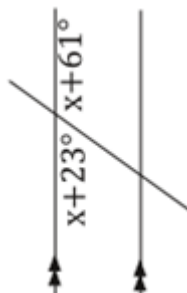
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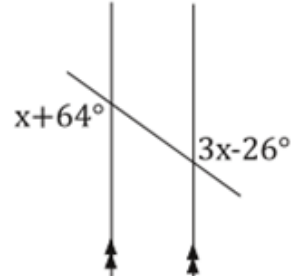
10.



11.

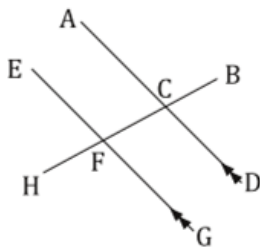


12.

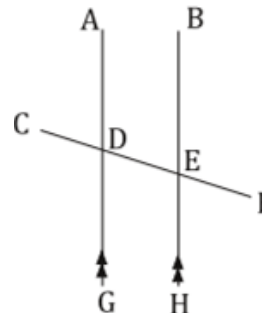


In the following problems, find the indicated angle.

13.  $m\angle ACB = 2X - 45^\circ$ ,  $m\angle HFG = X + 23^\circ$ . Find  $m\angle HFG$ .

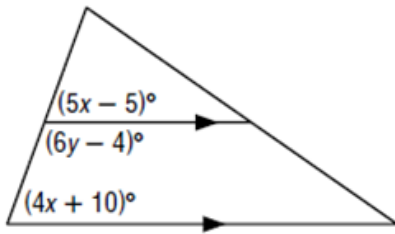


14.  $m\angle ADF = 2X + 4^\circ$ ,  $m\angle HEC = 4X - 14^\circ$ . Find  $m\angle HEC$ .

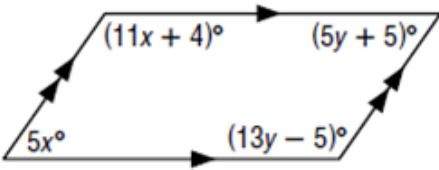


In the following problems, find the value of all variables.

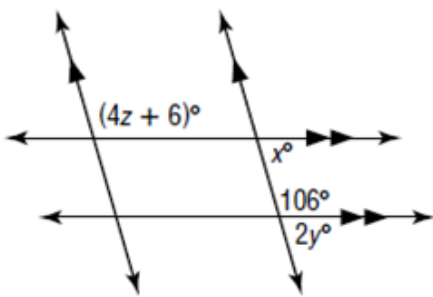
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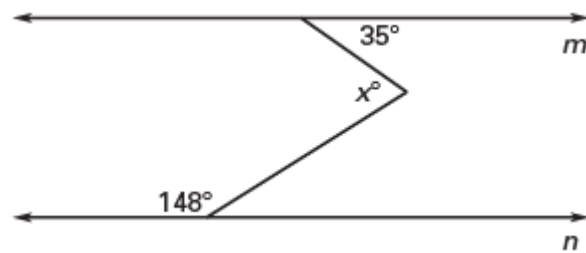
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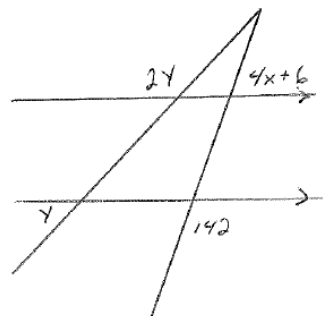
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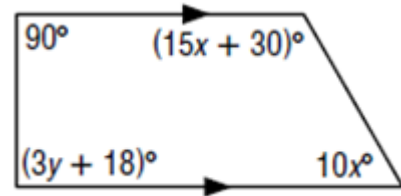
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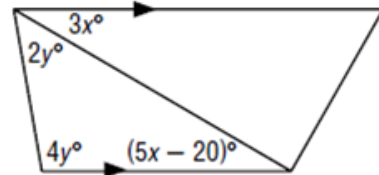
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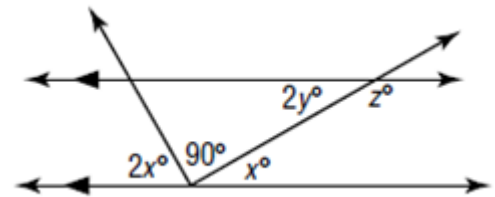
16.



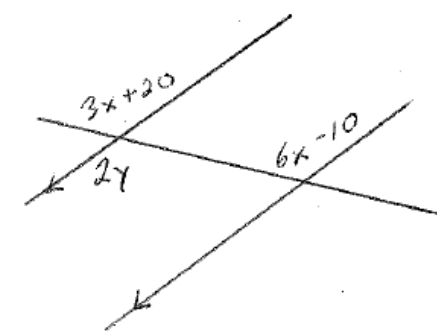
18.



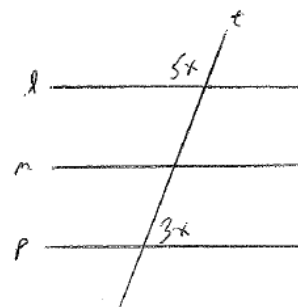
20.



22.



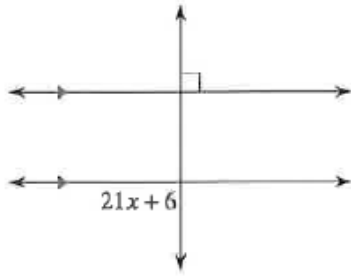
24. lines l, m, and p are all parallel.



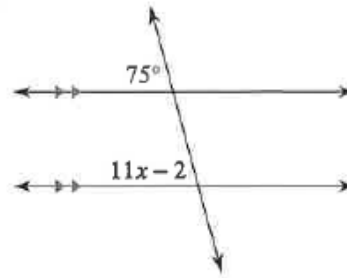
**More practice**

**Solve for  $x$ .**

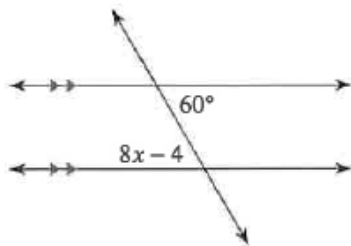
19)



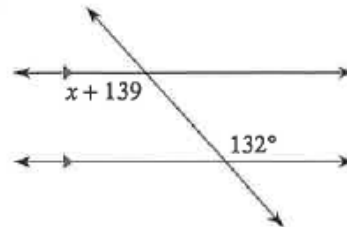
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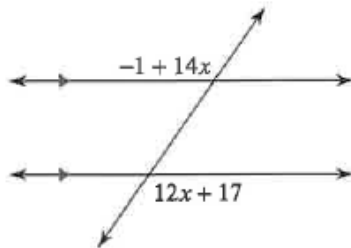
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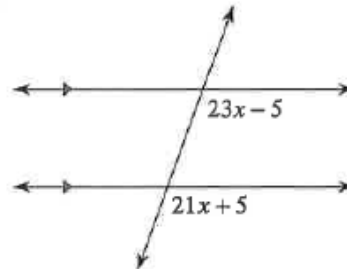
22)



23)

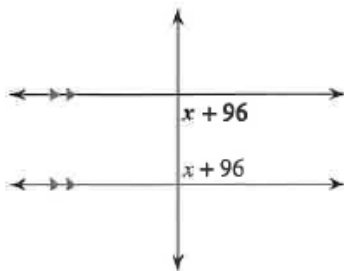


24)

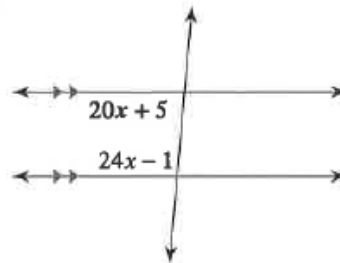


**Find the measure of the angle indicated in bold.**

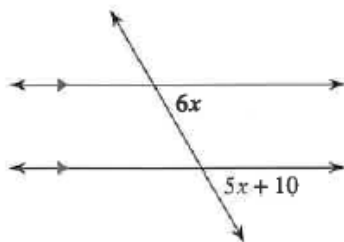
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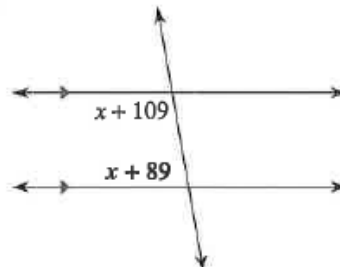
26)



27)



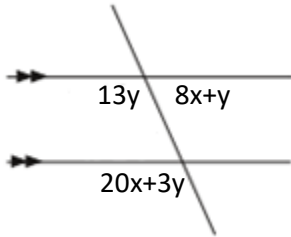
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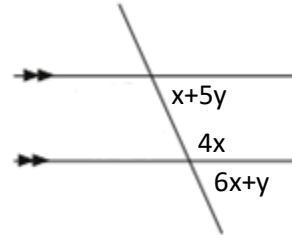
## Honors

In the following problems, find the value of all variables.

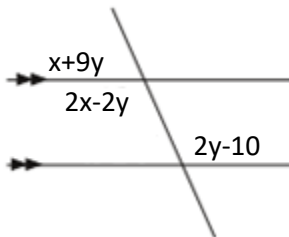
1.



2.



3.



4.

