

# Homework

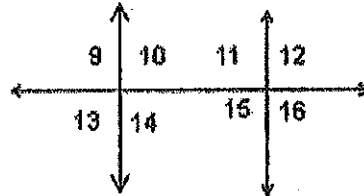
## Worksheet #3 (Parallel Lines Cut by a Transversal)

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Period: \_\_\_\_\_

Use the figure at the right to answer problems 1- 8.

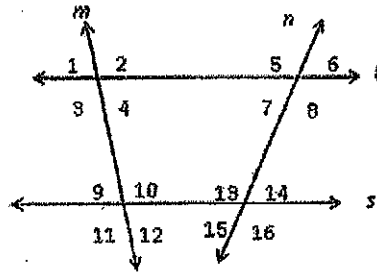
Classify each pair of angles as one of the following:

- |                               |                          |
|-------------------------------|--------------------------|
| (a) alternate interior angles | (b) corresponding angles |
| (c) alternate exterior angles | (d) vertical angles      |
| (e) supplementary angles      | (f) none                 |



- |                                    |                                    |
|------------------------------------|------------------------------------|
| 1. _____ $\angle 9$ & $\angle 16$  | 5. _____ $\angle 9$ & $\angle 11$  |
| 2. _____ $\angle 15$ & $\angle 11$ | 6. _____ $\angle 9$ & $\angle 15$  |
| 3. _____ $\angle 10$ & $\angle 15$ | 7. _____ $\angle 13$ & $\angle 14$ |
| 4. _____ $\angle 12$ & $\angle 15$ | 8. _____ $\angle 14$ & $\angle 11$ |

9.  $m\angle 2 = 97^\circ$      $m\angle 6 = 83^\circ$   
 $m\angle 3 =$  \_\_\_\_\_     $m\angle 5 =$  \_\_\_\_\_  
 $m\angle 10 =$  \_\_\_\_\_     $m\angle 7 =$  \_\_\_\_\_  
 $m\angle 9 =$  \_\_\_\_\_     $m\angle 16 =$  \_\_\_\_\_

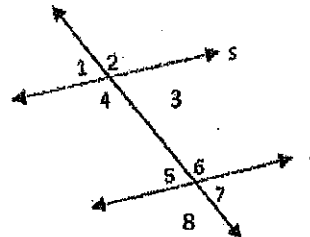


Find the value of x given that s // t

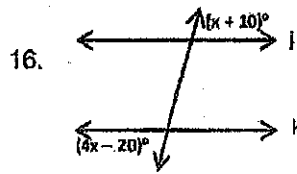
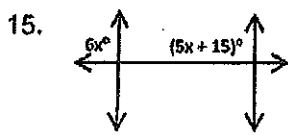
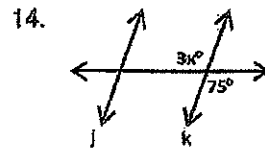
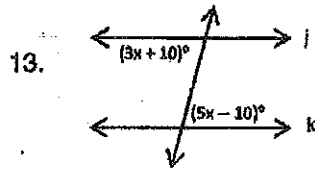
10.  $m\angle 4 = 77^\circ$ ,  $m\angle 8 = 4x + 57$

11.  $m\angle 3 = 5x + 13$ ,  $m\angle 5 = 53^\circ$

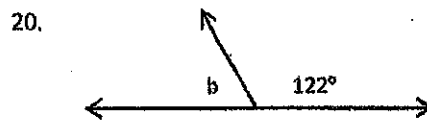
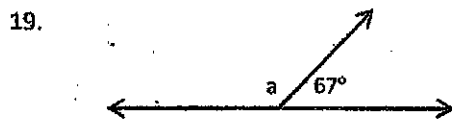
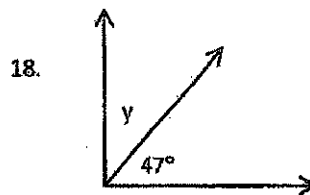
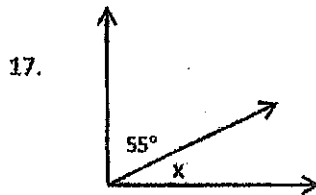
12.  $m\angle 1 = 6x - 5$ ,  $m\angle 7 = 115^\circ$



Find the value of  $x$  that makes  $l \parallel k$ .



Determine the missing angles.



# Homework

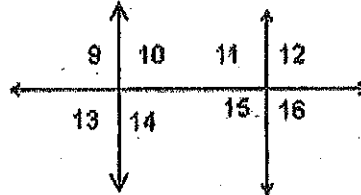
## Worksheet #3 (Parallel Lines Cut by a Transversal)

Name: ANSWER KEY Date: \_\_\_\_\_ Period: \_\_\_\_\_

Use the figure at the right to answer problems 1-8.

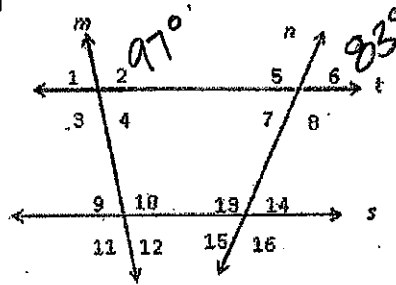
Classify each pair of angles as one of the following:

- (a) alternate interior angles      (b) corresponding angles  
 (c) alternate exterior angles      (d) vertical angles  
 (e) supplementary angles      (f) none



1. C  $\angle 9$  &  $\angle 16$       5. B  $\angle 9$  &  $\angle 11$   
 2. E  $\angle 15$  &  $\angle 11$       6. E  $\angle 9$  &  $\angle 15$   
 3. A  $\angle 10$  &  $\angle 15$       7. E  $\angle 13$  &  $\angle 14$   
 4. D  $\angle 12$  &  $\angle 15$       8. A  $\angle 14$  &  $\angle 11$

9.  $m\angle 2 = 97^\circ$      $m\angle 6 = 83^\circ$      $t \parallel s$   
 $m\angle 3 = \underline{97^\circ}$      $m\angle 5 = \underline{97^\circ}$   
 $m\angle 10 = \underline{97^\circ}$      $m\angle 7 = \underline{83^\circ}$   
 $m\angle 9 = \underline{83^\circ}$      $m\angle 16 = \underline{97^\circ}$



Find the value of x given that  $s \parallel t$

10.  $m\angle 4 = 77^\circ$ ,  $m\angle 8 = 4x + 57$

$$77 = 4x + 57$$

$$\boxed{x = 5}$$

11.  $m\angle 3 = 5x + 13$ ,  $m\angle 5 = 53^\circ$

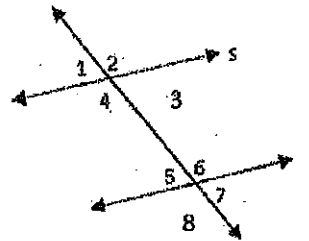
$$5x + 13 = 53$$

$$\boxed{x = 8}$$

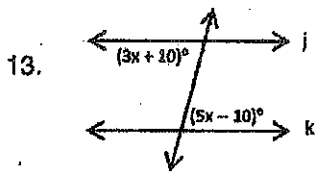
12.  $m\angle 1 = 6x - 5$ ,  $m\angle 7 = 115^\circ$

$$6x - 5 = 115$$

$$\boxed{x = 20}$$



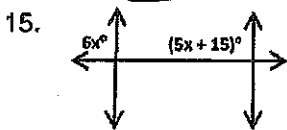
Find the value of  $x$  that makes  $l \parallel k$ .



$$3x + 10 = 5x - 10$$

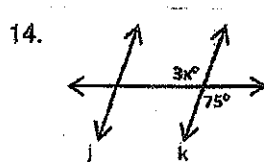
$$-2x = -20$$

$$x = 10$$



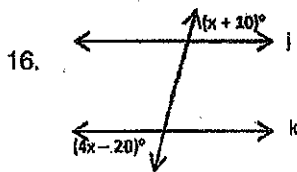
$$6x = 5x + 15$$

$$x = 15$$



$$3x = 75$$

$$x = 25$$

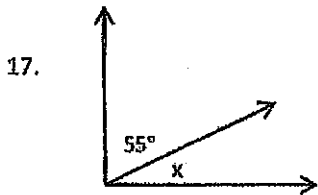


$$x + 10 = 4x - 20$$

$$3x = -30$$

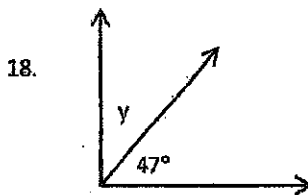
$$x = -10$$

Determine the missing angles.



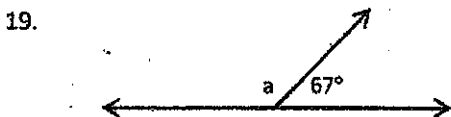
$$55 + x = 90$$

$$x = 35^\circ$$

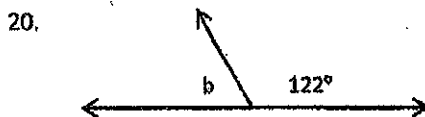


$$y + 47 = 90$$

$$y = 43^\circ$$



$$a = 113^\circ$$



$$b = 58^\circ$$