

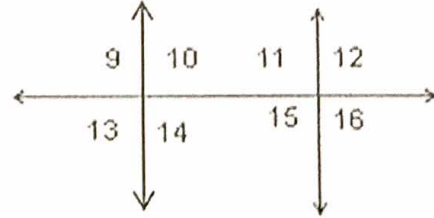
Worksheet #3 (Parallel Lines Cut by a Transversal)

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

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

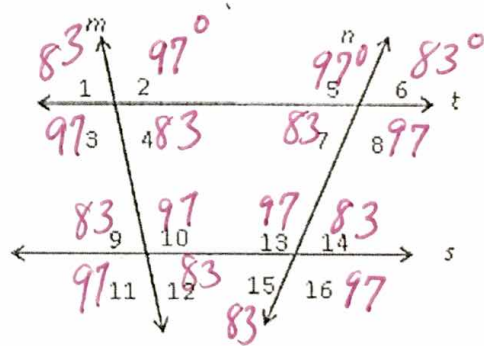
Classify each pair of angles as one of the following:

- (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 // s*  
 $m\angle 3 = 97^\circ$        $m\angle 5 = 97^\circ$   
 $m\angle 10 = 97^\circ$        $m\angle 7 = 83^\circ$   
 $m\angle 9 = 83^\circ$        $m\angle 16 = 97^\circ$



Find the value of x given that s // t

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

$$4x + 57 = 77$$

$$4x = 20$$

$$x = 5$$

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

$$5x + 13 = 53$$

$$5x = 40$$

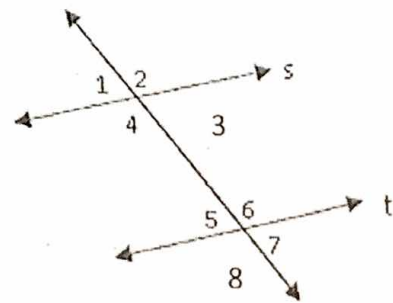
$$x = 8$$

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

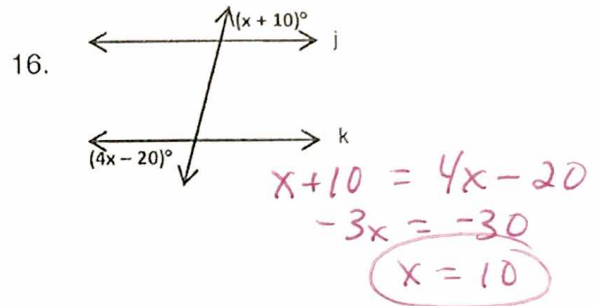
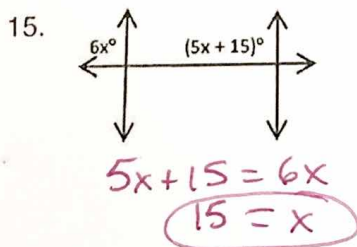
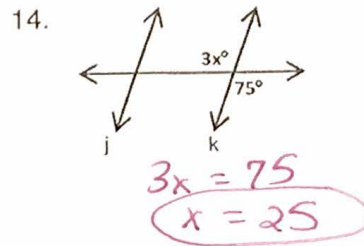
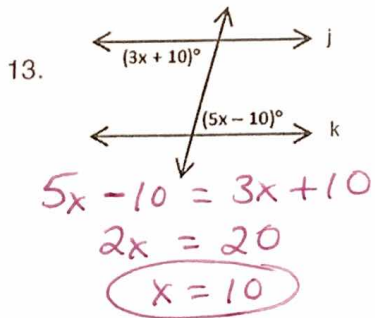
$$6x - 5 = 115$$

$$6x = 120$$

$$x = 20$$



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



Determine the missing angles.

