

## HW 7-1

## Parallel Lines &amp; Transversals

## Unit 7

t 1

Classify each pair of angles as *alternate interior*, *alternate exterior*, *corresponding*, *vertical*, *supplementary*, or *neither*.

1.  $\angle 1$  &  $\angle 5$

Corresponding

2.  $\angle 3$  &  $\angle 5$

3.  $\angle 2$  &  $\angle 6$

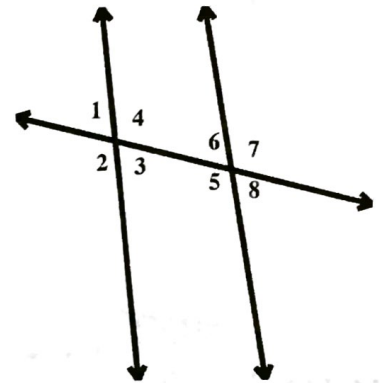
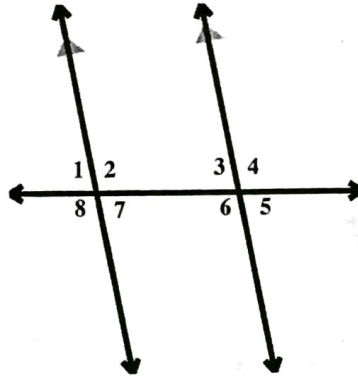
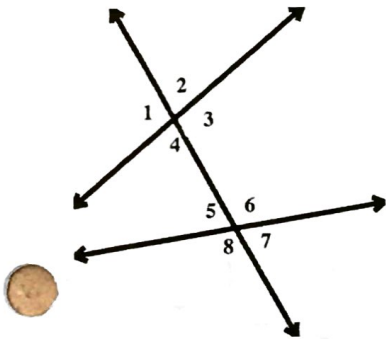
Alt. Int.

4.  $\angle 4$  &  $\angle 8$

5.  $\angle 2$  &  $\angle 5$

Corresponding.

6.  $\angle 1$  &  $\angle 8$



Classify each pair of angles as *alternate interior*, *alternate exterior*, *corresponding*, *vertical*, *supplementary*, or *neither*.

7.  $\angle 5$  &  $\angle 6$  vertical

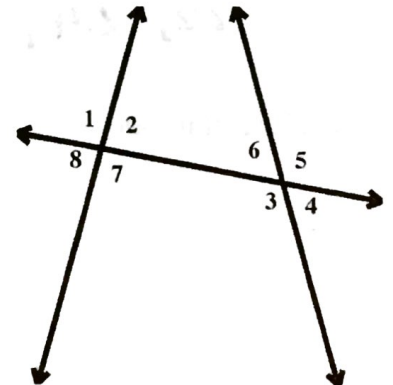
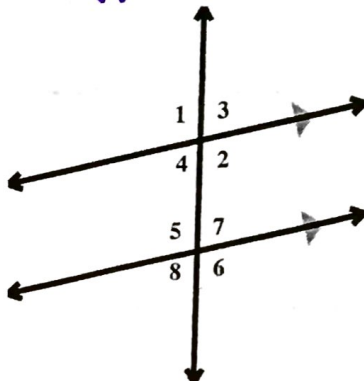
8.  $\angle 3$  &  $\angle 8$

9.  $\angle 2$  &  $\angle 4$  supp.

10.  $\angle 8$  &  $\angle 3$

11.  $\angle 4$  &  $\angle 6$  vertical

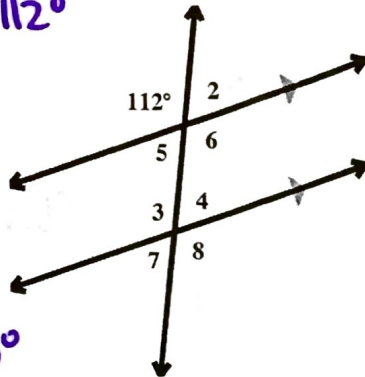
12.  $\angle 6$  &  $\angle 3$



Find the indicated angle measure. (There may NOT be enough information to find the value.) Justify your answer by naming the angle relationship and angles used.

13.  $m\angle 6 = 112^\circ$

vertical with  $112^\circ$



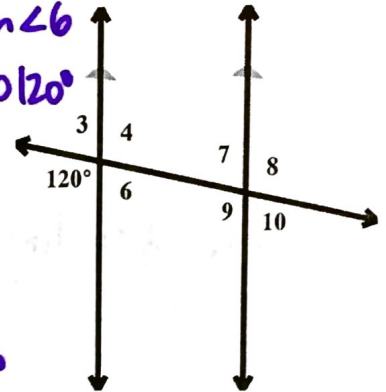
14.  $m\angle 3$

15.  $m\angle 4 = 68^\circ$

supp. with  $\angle 3$

19.  $m\angle 10 = 60^\circ$

Corresponds with  $\angle 6$   
which is supp. to  $120^\circ$



20.  $m\angle 8$

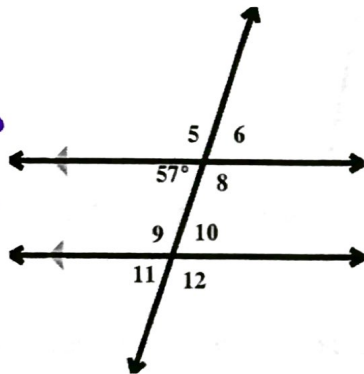
21.  $m\angle 4 = 120^\circ$

vertical with  $120^\circ$

16.  $m\angle 5$

17.  $m\angle 6 = 57^\circ$

vertical with  $57^\circ$

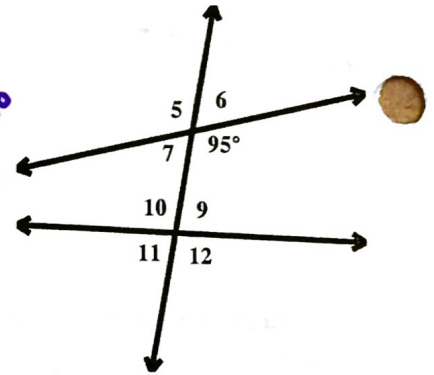


18.  $m\angle 11$

22.  $m\angle 7$

23.  $m\angle 5 = 95^\circ$

vertical with  $95^\circ$



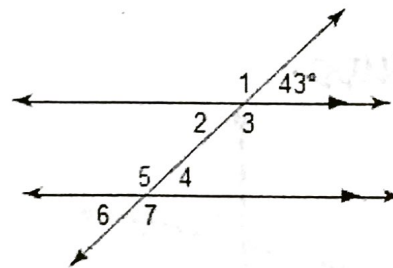
24.  $m\angle 12$

For problems 25 & 26, use the figure at the right.

25. List all the angles congruent to the given angle.

$\angle 2, \angle 4, \angle 6$

26. List all the angles congruent to  $\angle 5$ .



27. The symbol below is an equal sign with a slash through it. It is used to represent *not equal to* in math, as in  $1 \neq 2$ . If

$m\angle 1 = 108$ , classify the relationship between  $\angle 1$  and  $\angle 2$ . Then find  $m\angle 2$ .

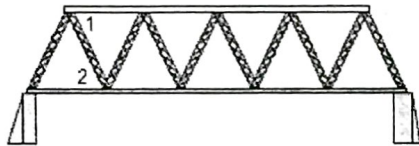
Assume the equal sign consists of parallel lines.

Classify: A.H. Exterior

$m\angle 2 = 108^\circ$

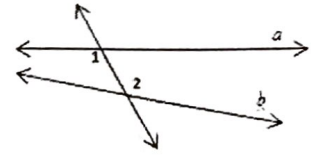


28. Arthur is designing a bridge for science class using parallel supports for the top and bottom beam. Find  $m\angle 2$  if  $m\angle 1 = 60$

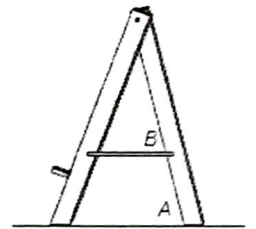


29. Line  $a$  and line  $b$  are not parallel. Are angle 1 & angle 2 congruent?

NO.

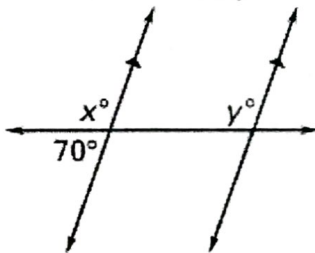


30. The drawing below shows the side view of a drawing easel. The brace is parallel to the ground. If  $m\angle A$  is  $82$ , what is the measure of  $\angle B$ ?



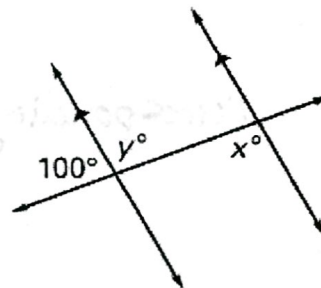
Find the values of  $x$  and  $y$ .

31.

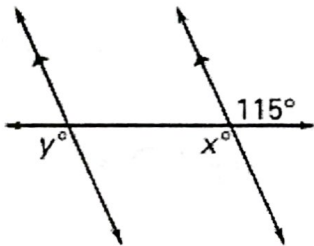


$x = 110$   
 $y = 110$

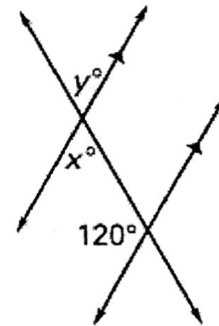
34.



32.

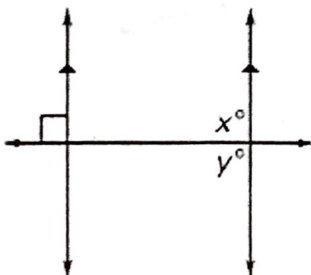


35.



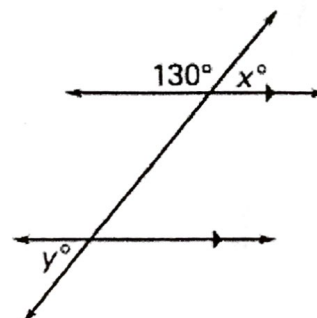
$x = 60^\circ$   
 $y = 60^\circ$

33.

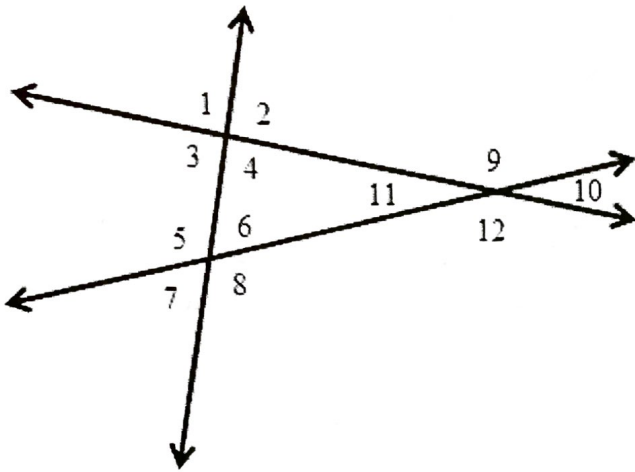


$x = 90$   
 $y = 90$

36.



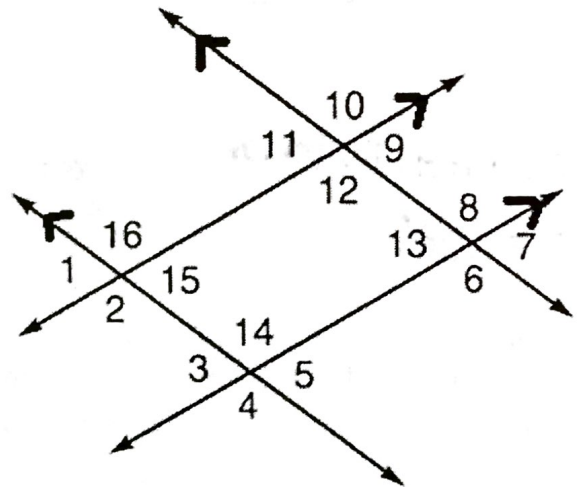
Classify each pair of angles as *alternate interior*, *alternate exterior*, *corresponding*, *vertical*, *supplementary*, or *neither*.



37.  $\angle 4$  &  $\angle 5$  *Alt. Interior*

38.  $\angle 7$  &  $\angle 9$

39.  $\angle 11$  &  $\angle 3$  *Corresponding*



40.  $\angle 1$  &  $\angle 5$

41.  $\angle 9$  &  $\angle 2$  *supp. or Neither*

42.  $\angle 7$  &  $\angle 13$