Geometry
Assignment 3.1

1. A line that intersects two other lines is called a _____.

2. _____ are used to show lines are parallel.

3. There are 4 names for pairs of angles formed by two lines and a transversal. They are:

_____, _____,

_____, and _____.

4. Corresponding, Alternate Exterior, and Alternate Interior angles are _____ in measure when the two lines intersected by a transversal are parallel.

5. Consecutive Interior Angles are _____ or add up to _____ when the two lines intersected by a transversal are parallel.

6. Any pair of angles formed by two lines and a transversal are either _____ in measure or are _____.

7. If there is no name for a pair of angles formed by two intersecting lines and a transversal, then they are _____.

State the name for the given pair of angles and their mathematical relationship.

8. ∠1 and ∠7

9. ∠4 and ∠8

10. ∠6 and ∠7

11. ∠3 and ∠5

12. ∠2 and ∠5

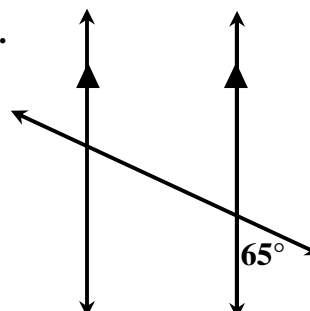**13.** ∠2 and ∠4

14. ∠1 and ∠8
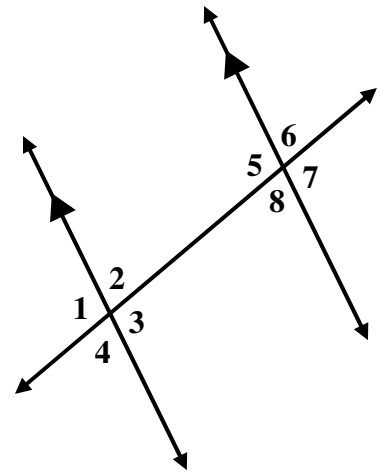
Label all the missing angle measures.

15.

110°

16.

65°

Find m∠1 and m∠2.

17.

150°

1
2

18.

140°
2   1

19.

122°

1 / 2

Find the value of x.

20.

80°
$(x + 15)°$

21.

120°

$3x°$

22.

75°

$(5x - 10)°$

Find the value of x and y.

23.

110°
$(5x + 15)°$
$(y - 28)°$

24.

$(4y - 16)°$ 68°

$(2x - 24)°$

25.

$(3y + 31)°$
$(6x + 8)°$
136°
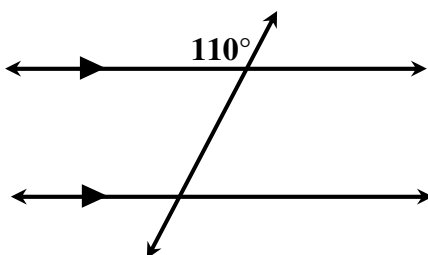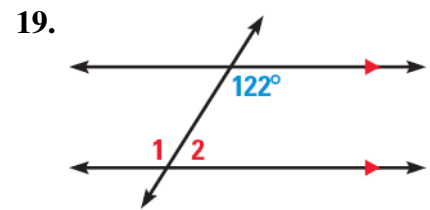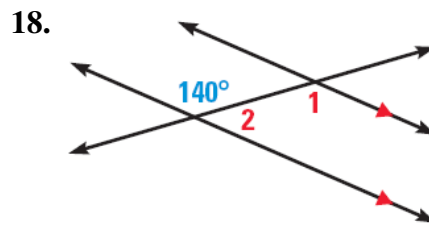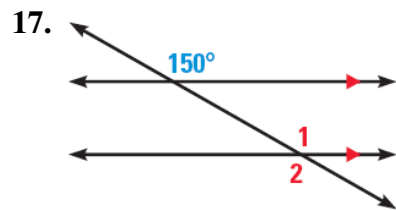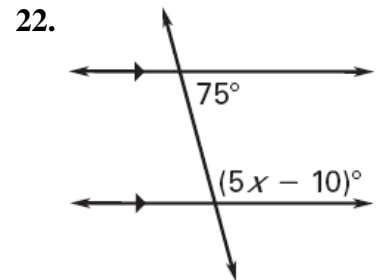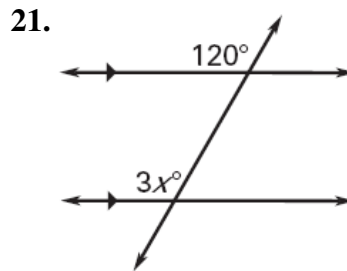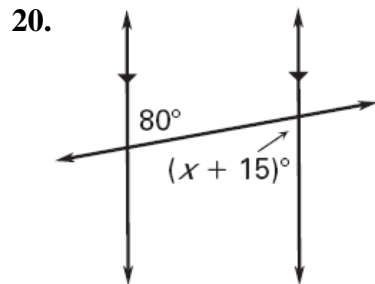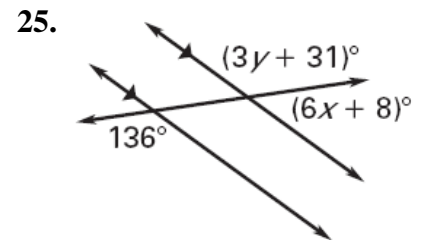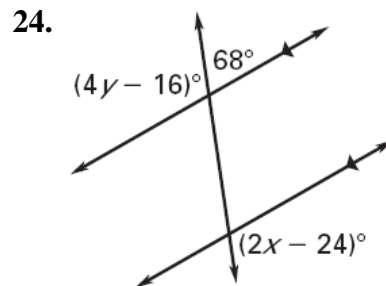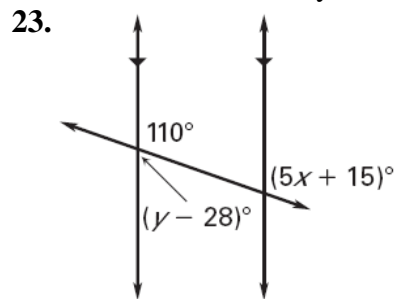
Answer Key:

1) Transversal **2)** Arrow heads   **3)** Corresponding, Alternate Interior, Alt.Exterior, Consecutive Interior

4) equal   **5)** supplementary, 180°   **6)** equal, supplementary   **7)** supplementary

8)Alt. Ext., m∠1 = m∠7   **9)** Corr., m∠4 = m∠8   **10)** Linear Pair, m∠6 + m∠7 = 180°

11) Alt. Int., m∠3 = m∠5   **12)** Cons. Int., m∠2 + m∠ 5 = 180°   **13)** Vertical ∠'s. m∠2 = m∠4

14) No name, m∠1 + m∠8 = 180°   **15)**

110°/70°
70°/110°

110°/70°
70°/110°

16)

65°
115°
115° 65°   65°
115°
115°
65°

17) m∠1 = 150°, m∠2 = 150°   **18)** m∠1 = 140°, m∠2 = 40°   **19)** m∠1 = 122°, m∠2 = 58°

20) x = 65   **21)** x = 40   **22)** x = 23   **23)** x = 19, y = 98   **24)** x = 68, y = 32   **25)** x = 6, y = 35