Angles, Angles, Everywhere!

Find the measure of ∠ABC.

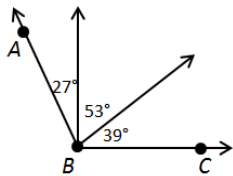**1.** m∠ABC = _____
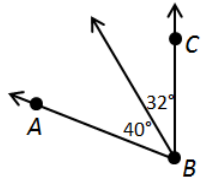
2. m∠ABC = _____
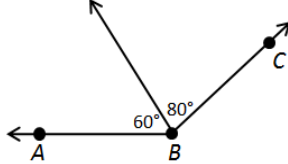
3. m∠ABC = _____

4. m∠ABC = _____
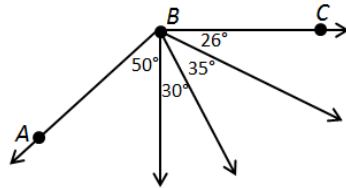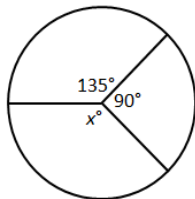

Find the value of x.

5. x = _____
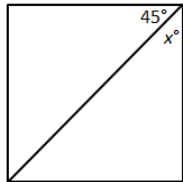
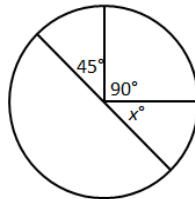**6.** x = _____
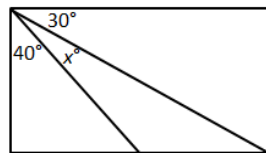
7. x = _____

8. x = _____

Classifying Angles

Tell if the angle appears to be *acute*, *right*, *obtuse*, or *straight*.

1. ∠CHF _____

2. ∠CHA _____

3. ∠EHF _____

4. ∠DHC _____

5. ∠BHF _____

6. ∠BHA _____

7. ∠EHG _____

8. ∠CHG _____

9. ∠AHE _____

10. ∠GHA _____
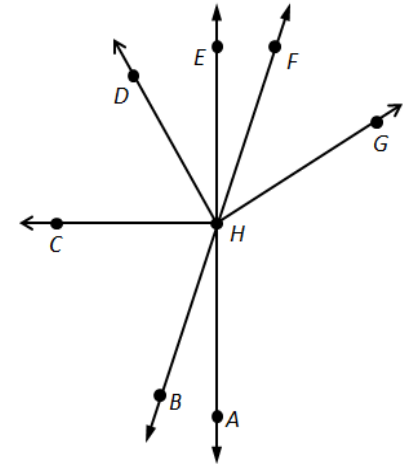
Write each numbered angle in the correct column. Two are done for you.
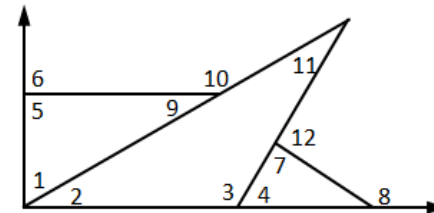
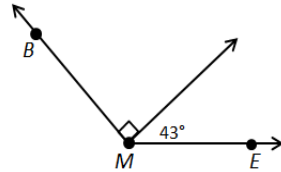| Acute Angles	Right Angles	Obtuse Angles
∠1	∠5	

Missing Measures

Find the angle measure.

1. $m\angle 1 =$ _____

2. $m\angle BME =$ _____

(Figure for #2: angle at M with B ray, right angle mark, and 43° to E ray)

3. $m\angle DNK = 110°$
$\;\;\;m\angle DNF =$ _____

(Figure for #3: rays D, F, K from vertex N, 49° marked)

4. $m\angle 2 =$ _____

(Figure for #4: straight line with 143° and angle 2)

5. $m\angle AQJ =$ _____

6. $m\angle MQT =$ _____

7. $m\angle AQT =$ _____

(Figure: rays A, M, J, T from vertex Q with 30°, 84°, 35°)

8. $m\angle BDG =$ _____

9. $m\angle CDG =$ _____

10. $m\angle BDF =$ _____

(Figure: rays B, G from vertex D on line C–F, 76° and 54°)
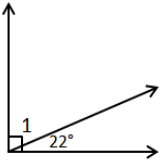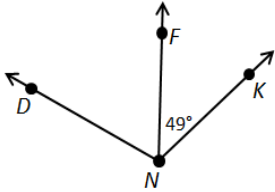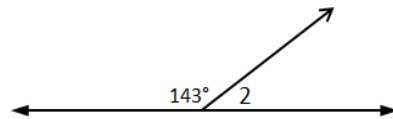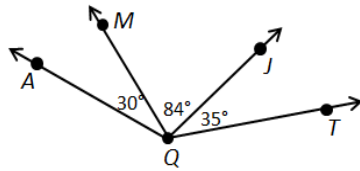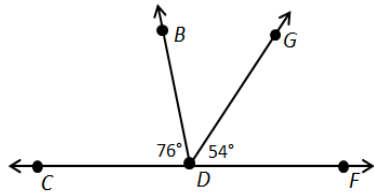
Working With Adjacent Angles

Correctly answer each question below.

1) What is the adjacent angle to ∠BAC?

_____

2) What is the adjacent angle to ∠BAD?

_____

3) What is the adjacent angle to ∠CAE?

_____

4) What two angles are adjacent angles to ∠CAD?
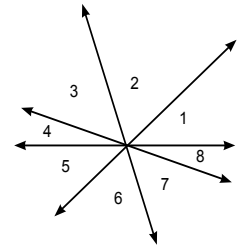
_____

Figure A.

(Figure A: rays A, B, C, D, E)
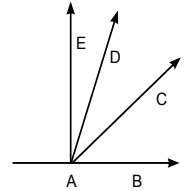
1) What are the two adjacent angles to ∠3?

_____

2) What is the smallest adjacent angle to ∠7?

_____

3) What are the adjacent angles to ∠5?

_____

Figure B.

(Figure B: intersecting lines numbered 1–8)

Adjacent: _____

Working With Complementary Angles

Part 1: Give the measurement for the complementary angle for each angle below.

A) 45º _____   F) 62º _____

B) 30º _____   G) 89º _____

C) 20º _____   H) 77º _____

D) 80º _____   I) 38º _____

E) 55º _____   J) 5º _____

Part 2: For each figure below, draw the complementary angle and label its measurement
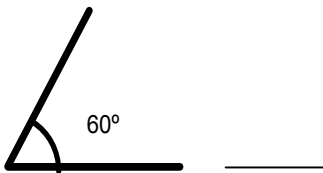
A)

45º _____

B)

25º _____

C)

60º _____
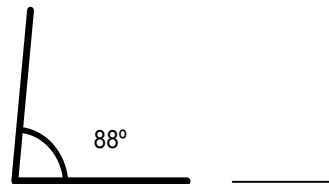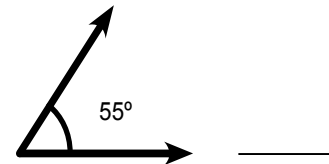
D)

88º _____

Working With Supplementary Angles

Part 1: Give the measurement for the supplementary angle for each angle below.

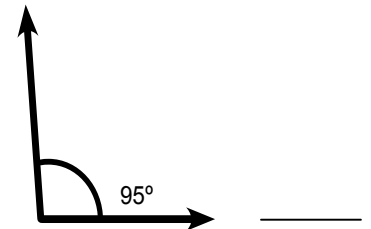A) 60º _____   F) 25º _____

B) 110º _____   G) 170º _____

C) 45º _____   H) 82º _____

D) 90º _____   I) 39º _____

E) 150º _____   J) 107º _____

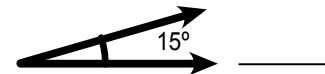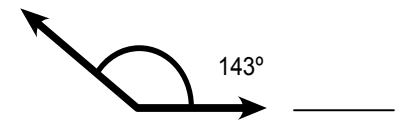Part 2: For each figure below, draw the supplementary angle and label its measurement

A)

55º _____

B)

95º _____

C)

15º _____

D)

143º _____
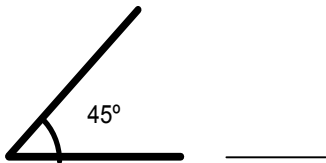
Complementary: _____

Supplementary: _____

Working With Linear Pairs

Write the correct answer each question below.

Each angle in Figure 1 is numbered.
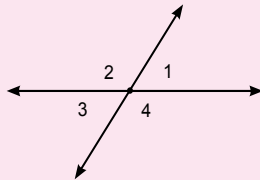What makes a linear pair with:

A) ∠1 _____ _____

B) ∠4 _____ _____

In Figure 2 what angles make a linear pair with:

A) ∠ BAC _____ _____

B) ∠ DAE _____ _____

C) ∠ GAF _____ _____
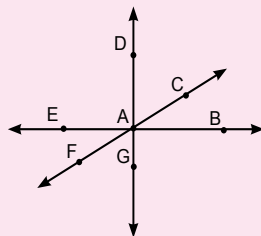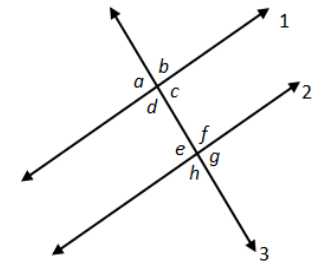
D) ∠ BAD _____ _____

Figure 1

Figure 2

Special Angle Pairs with Parallel Lines

Line 1 is parallel to line 2. List all the angle pairs that fall into each category.

Corresponding	Alternate Interior

Alternate Exterior	Consecutive Interior

Line *a* is parallel to line *b*. Tell if each statement is true (T) or false (F).

∠1 and ∠10 are alternate exterior angles. _____

∠8 and ∠11 are alternate interior angles. _____

∠2 and ∠10 are corresponding angles. _____

∠2 and ∠7 are alternate interior angles. _____

∠7 and ∠15 are corresponding angles. _____

∠5 and ∠10 are alternate interior angles. _____

∠7 and ∠11 are consecutive interior angles. _____

∠10 and ∠14 are consecutive interior angles. _____

∠1 and ∠3 are corresponding angles. _____

∠4 and ∠15 are alternate exterior angles. _____
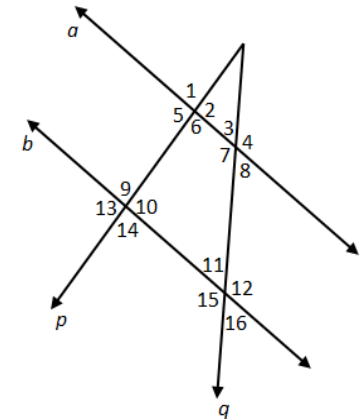
Interior: _____

Exterior: _____

Consecutive: _____

Alternate: _____
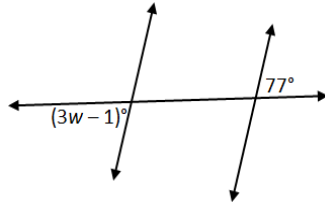
Corresponding: _____

Linear Pair: Sum of Angles =_____

Parallel Lines: Finding the Unknown

Writing Equations for Vertical Angles

Each diagram is formed by two parallel lines and a transversal. Write the equation you can use to find the value of the variable. Then find the value of the variable.
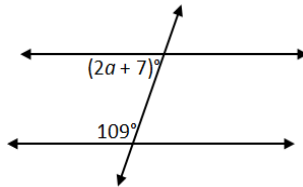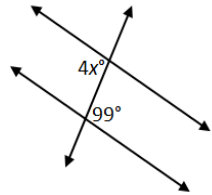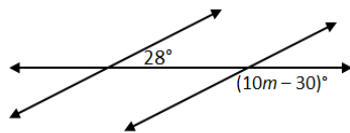
Equation _____

$w =$ _____

$(3w - 1)°$ $77°$

Equation _____

$a =$ _____

$(2a + 7)°$

$109°$

Equation _____

$x =$ _____

$4x°$

$99°$

Equation _____

$m =$ _____

$28°$

$(10m - 30)°$

Equation _____

$t =$ _____

$0.5t°$

$125°$

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

1. $x =$ _____

$2x°$ $74°$

2. $x =$ _____

$126°$

$(x + 77)°$

3. $x =$ _____

$75°$

$(6x - 21)°$ $105°$

4. $x =$ _____

$85°$

$55°$

$8x°$

5. $x =$ _____

$y =$ _____

$128°$

$52°$

$4y°$ $(x - 15)°$

6. $x =$ _____

$y =$ _____

$105°$

$(12x + 15)°$ $75°$

$(6y - 27)°$
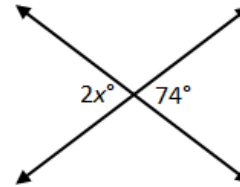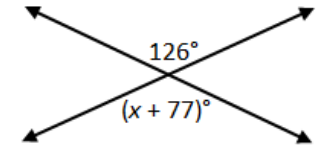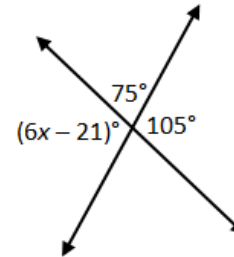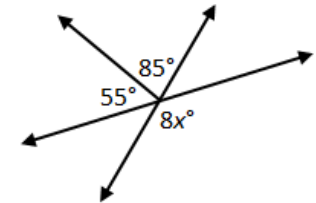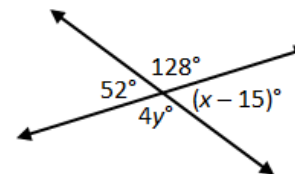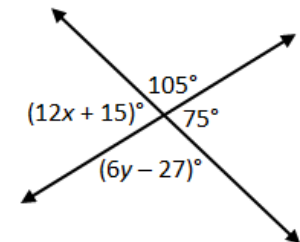
Using Angle Relationships

Find the values of the variables.

a = _____ b = _____ c = _____

d = _____ e = _____ f = _____

g = _____ h = _____ j = _____ k = _____

57° a°

120°
3c° (b + 44)°

35°

d°

2e° 88°
(f − 15)°

83° k°
35° (h + 23)°
26° (3g + 70)°
2j°