Worksheet

1. Choose the correct option.

   a. Three or more points are collinear if all of them lie on a/the _____ line.

      i. different   ii. transversal   iii. same   iv. concurrent

   b. Two lines are said to be perpendicular to each other if they form an angle equal to _____ between them.

      i. 180°   ii. 60°   iii. 360°   iv. 90°

   c. Supplementary angles are those whose sum is equal to _____.

      i. 90°   ii. 180°   iii. 360°   iv. 270°

2. Fill in the blanks.

   a. A complete angle is that which is equal to _____.

   b. A line which intersects two or more lines in a plane at different points is called a _____.

   c. Two angles formed by two intersecting lines having no common arm are called _____.

   d. Three or more lines are concurrent if all of them pass through the _____ point, called the point of concurrence of the lines.

3. State true or false.

   a. When two rays are coincident or identical, we call it a zero angle.

   b. The portion of the plane which is outside the two arms of an angle is called interior of the angle.

   c. Two angles are said to be congruent if their measures are the same.

   d. An angle whose measure is more than 180° but less than 360° is called a reflex angle.

4. In the given figure, find the value of p.
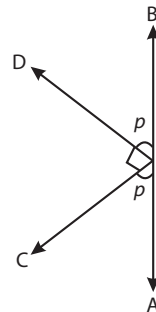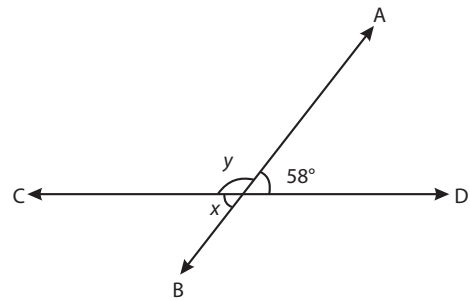

5. Identify complementary and supplementary angles:

     a. 70°, 20°   b. 150°, 30°   c. 60°, 120°   d. 10°, 80°

6. Using the given figure, find the measure of
    ∠ POR and ∠ ROQ.

    R

    $(3x + 20)°$ $(2x - 10)°$

    P ← ─────────── O ─────────── → Q
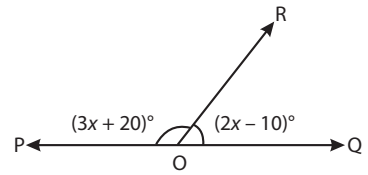
7. Using the given figure, find the
    value of x and y.

    A

    y 58°

    C ← ─────────── → D

    x

    B
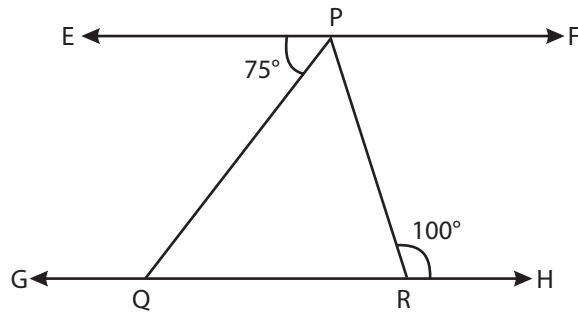
8. From the given figure, write the pair of
    a. alternate interior angles
    b. vertically opposite angles
    c. linear pair of angles
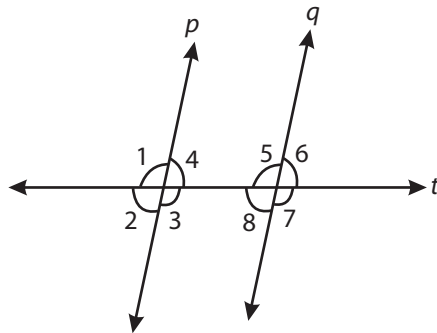
    A ← ─── 7 8 ─── → B
           6 5

    C ← ─── 4 3 ─── → D
           1 2
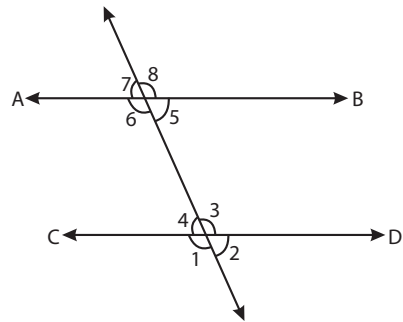
9. In the given figure, p‖q, find the value of x.

    l

    $3x°$

    ← ─────────── → p

    ← ─────────── → q

    $(2x + 10)°$
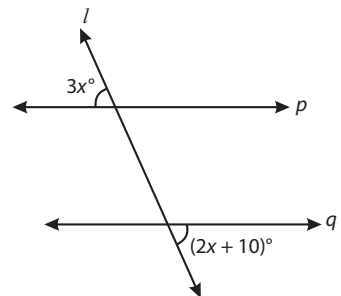
10. In the given figure, EF‖GH, ∠ EPQ = 75° and ∠ PRH = 100°. Find the value of ∠ PQR, ∠ PRQ, ∠ QPR and ∠ RPF.

11. In the given figure, $p‖q$ and t is a transversal. If ∠ 6 = 75°, find the measure of the other angles.

12. From the given figure, find ∠ ACP if AB‖CD‖PQ.
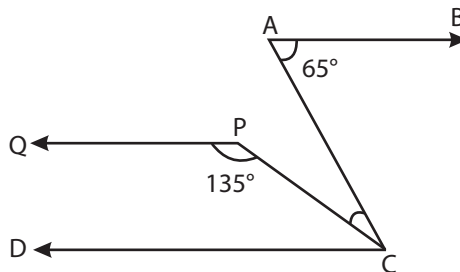
13. Measure of an angle is 57° 13′17″. If an angle measuring 15° 59′33″ is cut off, then what will be the measure of the remaining part of the angle?

14. If ∠ A = 27° 24′13″ and ∠ B = 72° 13′64″, find the sum of their measures.

74

15. In the given figure, AB || CD, find the measure of the angles *x*, *y* and *z*.
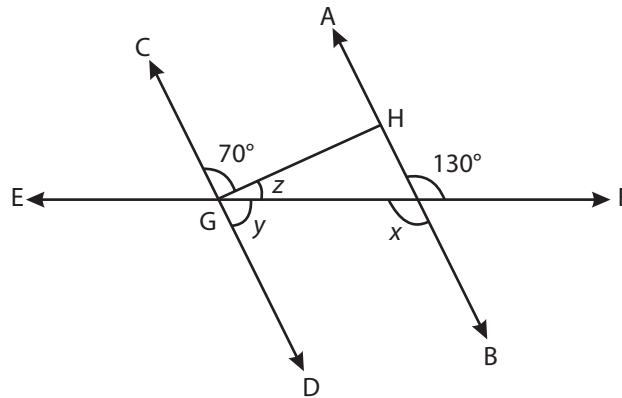
Answers to Worksheet

1. a. iii   b. iv   c. ii
2. a. 360°   b. transversal
    c. vertically opposite angles   d. same
3. a. True   b. False   c. True   d. True
4. 45°
5. *a*, *d* = Complementary angles
    b, *c* = Supplementary angles
6. ∠ POR = 122° and ∠ ROQ = 58°
7. *x* = 58°, *y* = 122°
8. a. ∠ 6, ∠ 3 and ∠ 4, ∠ 5
    b. (∠ 7, ∠ 5), (∠ 6, ∠ 8), (∠ 4, ∠ 2), (∠ 3, ∠ 1)
    c. ∠ 3 + ∠ 4; ∠ 3 + ∠ 2; ∠ 1 + ∠ 4; ∠ 1 + ∠ 2; ∠ 7 + ∠ 8; ∠ 8 + ∠ 5; ∠ 7 + ∠ 6; ∠ 6 + ∠ 5
9. *x* = 10°
10. ∠ PQR = 75°, ∠ PRQ = 80°, ∠ QPR = 25°,   ∠ RPF = 80°
11. ∠ 1 = 105°, ∠ 2 = 75°, ∠ 3 = 105°, ∠ 4 = 75°, ∠ 5 = 105°, ∠ 6 = 75°, ∠ 7 = 105°,
    ∠ 8 = 75°
12. 20°   13. 41° 13′ 44″   14. 99° 38′ 17″
15. ∠ *x* = 130°, ∠ *y* = 50°, ∠ *z* = 60°