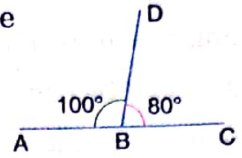
Ch-6 work sheet

Section A

I. MULTIPLE CHOICE QUESTIONS (MCQ)

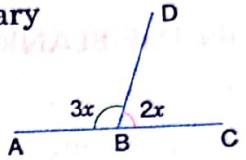
For each question, there are four options, out of which one is correct. Choose the correct one :

1. In the adjoining figure, the two marked angles are
   (a) supplementary (b) adjacent
   (c) linear pair (d) All of these



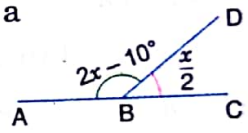
2. Two adjacent angles have
   (a) two common arms (b) a common vertex
   (c) a common arm for angle bisector (d) All of these

3. In the adjoining figure, two marked angles are supplementary to each other. If the angle measuring $2x$ is halved, then the measure of the other angle
   (a) becomes double (b) becomes $5x$
   (c) becomes half (d) becomes $4x$



4. The two angles measuring $4x$ and $6x$ are adjacent angles. If the smaller angle is expanded by 10°, the two angles become complementary to each other. The greater angle of the two angles measures
   (a) 54° (b) 60° (c) 48° (d) 52°

5. In the adjoining figure, if the two marked angles form a linear pair, the greater angle measures
   (a) 142° (b) 120° (c) 130° (d) $128\frac{1}{2}°$

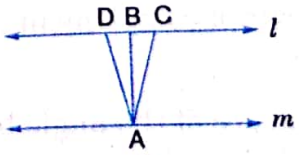


6. Vertically opposite angles have
   (a) a common arm (b) a common vertex
   (c) two common vertices (d) None of these

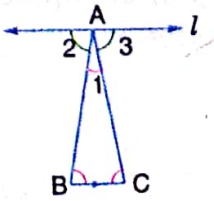
7. If an angle is equal to its complement, then the angle measures
   (a) 90° (b) 45° (c) 0° (d) 1°

8. The difference between the sums of two supplementary angles and two complementary angles is
   (a) 90° (b) 45° (c) 0° (d) 1°

9. In the adjoining figure, AB is perpendicular to both the lines l and m. Now, we get
   (a) AB = AC (b) AB = AD
   (c) AD < AB (d) AB < AC



10. In the adjoining figure, $l \parallel$ BC and AB and AC are the transversals. If $\angle 2 = \angle 3$ and $\angle 1 = \frac{1}{4}\angle 2$, then the measure of $\angle$B is
    (a) 80° (b) 70°
    (c) 72° (d) 76°



II. TRUE / FALSE

1. A line has two end-points.
2. If a transversal cuts two parallel lines, then the alternate angles are equal.
3. A rectangle has two pairs of parallel sides.
4. If two lines l_1 and l_2 are perpendicular to a line t, then $l_1 \perp l_2$.
5. Two adjacent angles sometimes form a linear pair.
6. Two obtuse angles can be supplementary.
7. Adjacent angles can be complementary.
8. Two supplementary angles form a linear pair.
9. If an angle is less than 90°, its supplement will also be less than 90°.
10. If an angle is greater than 45°, its complement will be less than 45°.

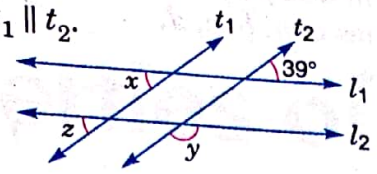
III. FILL IN THE BLANKS

1. The angles in a linear pair are _____ .
2. If two lines intersect, the vertically opposite angles are _____ .
3. A ray has _____ end-point(s).
4. If a transversal t makes equal alternate angles with two lines l_1 and l_2, then _____ .
5. If a transversal cuts two parallel lines, then the interior angles on the same side of the transversal are _____ .
6. Parallel lines are always _____ .
7. The angle formed between the east and west directions is _____ .
8. A line which intersects two or more given lines at different points is called _____ .
9. _____ angle is equal to its complement.
10. Supplement of an acute angle is always an _____ angle

IV. MATCH THE COLUMNS

1.

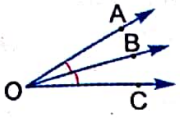
Column A	Column B
(a) The supplementary of 35° is _____ .	(p) 22°, 68°
(b) A pair of complementary angles are _____ .	(q) 0°
(c) Measure of the angle between two parallel lines is _____ .	(r) 145°
(d) A pair of supplementary angles are _____ .	(s) 131°, 49°

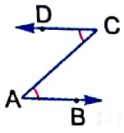
Column A	Column B
2. In the Fig., $l_1 \parallel l_2$ and $t_1 \parallel t_2$. 	
(a) x = ?	(p) 39°
(b) y = ?	(q) 39°
(c) z = ?	(r) 51°
(d) Complementary of x = ?	(s) 141°

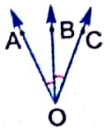
Section B

I. SHORT AND LONG ANSWER TYPE QUESTIONS

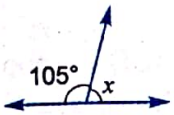
1. Check whether the following pairs of angles are adjacent :

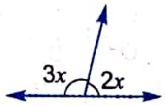
(i) 

(ii) 

(iii) 

2. Find the degree measure of each angle in the following linear pairs :

(i) 

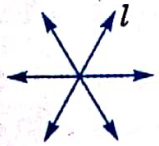
(ii) 

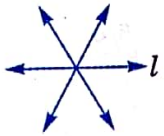
3. List the following pairs under two groups, complementary angles and supplementary angles :

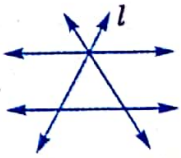
(130°, 50°), (55°, 35°), (100°, 80°), (70°, 20°), (50°, 40°), (60½°, 29½°), (100.5°, 79.5°), (22½°, 67½°)

4. In the adjoining figure, mark the vertically opposite angles. Which of these are equal to one another ?

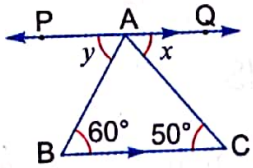
5. In each of the following figures, state whether the line l is a transversal :

(i) 

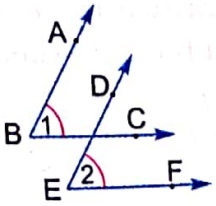
(ii) 

(iii) 

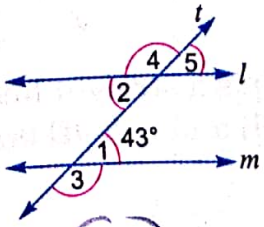
6. In the adjoining figure, find x and y, if PQ $\parallel$ BC.



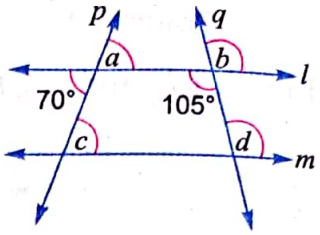
7. The arms of two angles are parallel as shown in the following figure. If $\angle 1 = 70°$, find $\angle 2$.



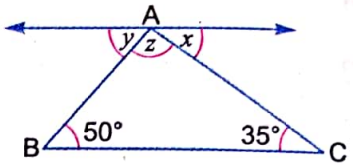
8. In the adjacent figure, if $l \parallel m$ and $\angle 1 = 43°$, find the measures of $\angle 2$, $\angle 3$, $\angle 4$ and $\angle 5$.



9. In the figure given at right, $l \parallel m$ and p, q are two transversals. Find the values of a, b, c, d.

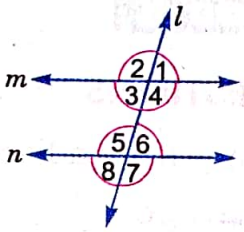


10. In the figure given at right, ABC is a triangle. The line through A is parallel to BC. Find the values of x, y, z.



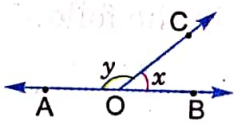
II. MENTAL MATHEMATICS

1. In the following figure, $\angle 3 = 61°$ and $\angle 7 = 118°$. Is line $m \parallel n$?



2. An angle is equal to five times its complement. Determine its measure.

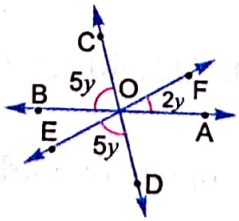
3. In the following figure, OA and OB are opposite rays.



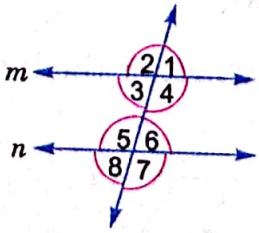
(*i*) If $x = 75°$, what is the value of y ?

(*ii*) If $y = 110°$, what is the value of x ?

4. In the following figure, determine the value of y.

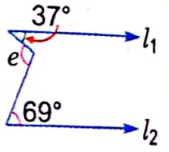


5. In the following figure, line $m \parallel$ line n and $\angle 1 = 65°$. Find $\angle 5$ and $\angle 8$.

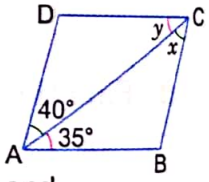


HOTS Higher Order Thinking Skills

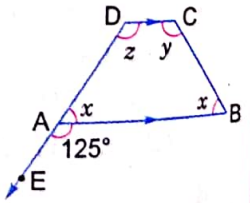
1. In the adjoining figure, $l_1 \parallel l_2$. Find the measure of the angle marked e.



2. In the given figure, AB || DC and AD || BC, and AC is a diagonal. If $\angle BAC = 35°$, $\angle CAD = 40°$, $\angle ACB = x$ and $\angle ACD = y$, find the values of x and y.



3. In the given figure, AB || CD and DA has been produced to E, so that $\angle BAE = 125°$. If $\angle BAD = x$, $\angle ABC = x$, $\angle BCD = y$ and $\angle ADC = z$, find the values of x, y, z.



(4)