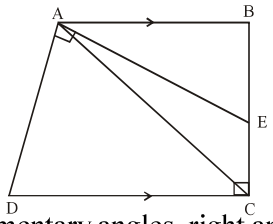
QUESTION BANK

EXERCISE - 1

Q.1 Name the following angles in the diagram.



(a) An acute angle at A (b) An acute angle at C
(c) A right angle at A (d) A right angle at C
(e) An obtuse angle at A (f) An obtuse angle at E
(g) Four pairs of conjoined angle in ABCD
(h) A straight line

Q.2 Define : Adjacent angle, linear pair of angles, supplementary angles, complementary angles, right angle, acute angle, obtuse angle, straight angle, reflex angle, line segment, interior point, distance between two points, betweenness, mid-point, bisector of a line, half-plane, angle, vertex of an angle, arms of an angle, congruent lines.

Q.3 Prove that if two lines intersect, then the vertically opposite angles are equal.

Q.4 Explain the terms : transversal, pairs of corresponding angles and pairs of alternate angles and parallel lines.

Q.5 Two parallel lines are cut by a transversal such that one of the interior angle is 57°. Find each of the other interior angles.

Q.6 A transversal cuts two straight lines, such that the bisectors of one pair of corresponding angles are parallel to each other. Prove that the lines are also parallel to each other.

Q.7 Two straight lines are perpendicular to the same line, prove that they are parallel to each other.

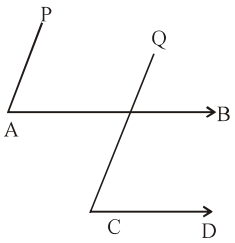
Q.8 Prove that the bisectors of vertically opposite angles are in one and the same straight line.

Q.9 Two straight lines AB, CD intersect at O. PO is the bisector of $\angle$ AOC. Prove that PO produced bisects $\angle$ BOD.

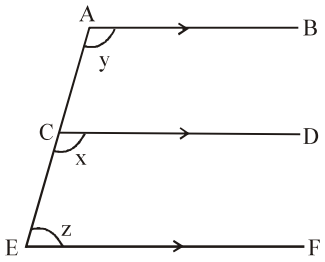
Q.10 Two straight lines AB and CB intersect at O, and AB is parallel to CD, prove that triangles ABO and CDO are equiangular.

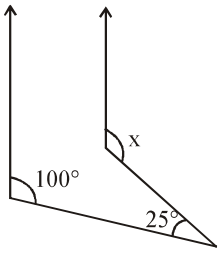
Q.11 Find the adjoining diagram AB and CD are parallel

$\angle$ BAP = $\angle$ DCQ, show that AP and CQ are parallel.



Q.12 In the given figure if $\angle$ z = 70, find $\angle$ x and $\angle$ y.





Q.13 Find $\angle$ x : **(Figure Q.13)**

Q.14 The supplement of an angle is one third of itself. Determine the angle and its supplement.

EXERCISE - 2

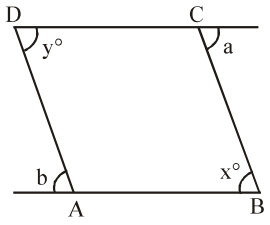


Figure Q.1

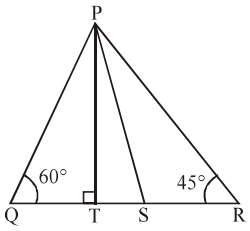


Figure Q.2

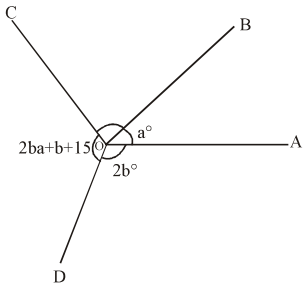


Figure Q.4

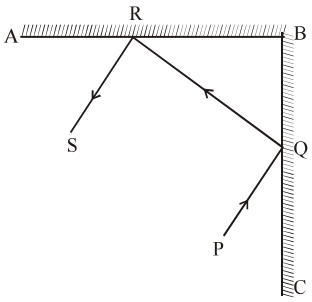


Figure Q.5

Q.1 The sides BA and DC of the quadrilateral ABCD are produced as shown in figure 1. Prove that a + b = x + y.

Q.2 In the given figure 2, $\angle Q > \angle R$, PS is the angle bisector of the $\angle QPR$. $PT \perp QR$. Prove that $\angle TPS = \angle 7°30'$.

Q.3 It is given that $\angle XYZ = 64°$ and XY is produced to point P. If ray YQ bisects $\angle ZYP$, find $\angle XYQ$ and reflex $\angle QYP$.

Q.4 In the given figure 4, $2b - a = 65°$ and $\angle BOC = 90°$, find the measure of $\angle AOB$, $\angle AOD$ and $\angle COD$.

Q.5 In figure 5, AB and BC are two plane mirrors placed perpendiculars to each other. Prove that the incident ray PQ is parallel to reflected ray RS.

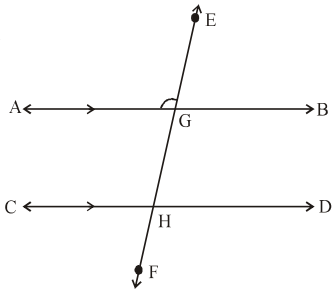
EXERCISE - 3

Fill in the Blanks

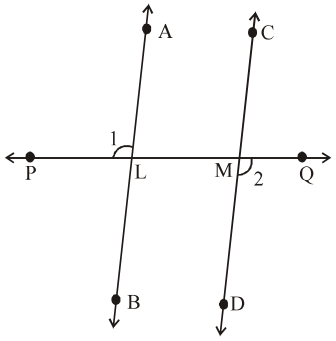
Q.1 If a transversal intersects two parallel lines, then the sum of the interior angles on the same side of the transversal is .....

Q.2 Lines which are parallel to the same line are ..... to each other.

Q.3 In figure, AB || CD, transversal EF cuts them at G and H respectively. If $\angle AGE = 110°$, then $\angle GHD$ =



Q.4 In figure, a transversal PQ intersects two parallel line AB and CD at L and M respectively. If $\angle 1 = 95°$, then $\angle 2$ =.....



True-False statement :

Q.5 Three lines are concurrent if they have a common point.

Q.6 A line segment has one end-point only

Q.7 Four lines are concurrent if they have a common point

Q.8 A segment has no length.

Q.9 Three points will be collinear only when they lie on a line.

Q.10 A ray has a finite length.

Q.11 Two lines will meet in one point only when they are parallel.

EXERCISE - 4

Q.1 If two lines intersected by a transversal, then each pair of corresponding angles so formed is –
(A) Equal (B) Complementary (C) Supplementary (D) None of these

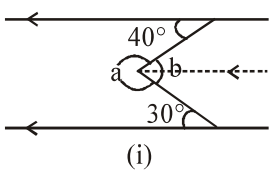
Q.2 An angle is 14° more than its complementary angle then angle is –
(A) 38° (B) 52° (C) 50° (D) None of these

Q.3 If one angle of triangle is equal to the sum of the other two then triangle is –
(A) acute a triangle (B) obtuse triangle (C) right triangle (D) None

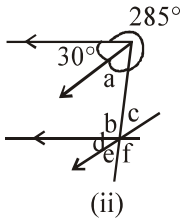
Q.4 If the supplement of an angles is three times its complement, then angle is –
(A) 40° (B) 35° (C) 50° (D) 45°

Q.5 Which one of the following statements is not false –
(A) if two angles forming a linear pair, then each of these angles is of measure 90°
(B) angles forming a linear pair can both be acute angles
(C) one of the angles forming a linear pair can be obtuse angles.
(D) bisectors of the adjacent angles form a right angle.

Q.6 In the figure, angle a is –
(A) 290°
(B) 70°
(C) 105°
(D) 45°



(i)



(ii)

Q.7 In the above figure, angle b is –
(A) 270° (B) 70° (C) 105° (D) 45°

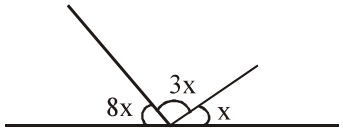
Q.8 In the above figure, angle c is –
(A) 270° (B) 70° (C) 105° (D) 45°

Q.9 In the above figure, angle d is –
(A) 270° (B) 30° (C) 105° (D) 45°

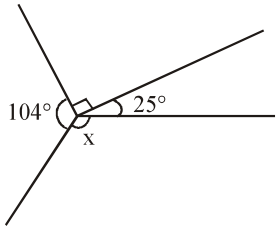
Q.10 In the above figure, angle e is –
(A) 270° (B) 70° (C) 45° (D) 30°

Q.11 In the above figure, angle f is –
(A) 270° (B) 70° (C) 105° (D) 45°

Q.12 Calculate ∠ x =
(A) 270°
(B) 70°
(C) 15°
(D) 45°



Q.13 Calculate ∠ x =
(A) 141°
(B) 70°
(C) 105°
(D) 45°



Q.14 In twelve hours beginning from past mid-night, the minute hand and hour hand will overlap –
(A) 10 times (B) 11 times (C) 12 times (D) 13 times

Q.15 Angle between the hour and minute hand of a clock at 11-15 is –
(A) 90° (B) 112.5° (C) 120° (D) 150°