EXTRA QUESTIONS

Fill in the blanks:

1. If a transversal intersects a pair of lines in such a way that the sum of interior angles on the same side of the transversal is 180°, then the lines are _____

2. If a transversal intersects a pair of lines in such a way that a pair of alternate angles are equal, then the lines are_____

3. If two parallel lines are intersected by a transversal, then each pair of corresponding angles are_____

4. If two parallel lines are intersected by a transversal then interior angles on the same side of the transversal are_____

5. Two lines perpendicular to the same line are _____ to each other.

6. Two lines parallel to the same line are _____ to each other.

7. If all sides of a polygon are equal, it is called a _____

9. If the sum of two angles is 180°, then these angles are called _____

10. Sum of all the exterior angles formed by producing the sides of polygon is _____

Very Short Answers

1. If angles 'a' and 'b' form a linear pair of angles and $a - 2b$=30°, then find the value of a.

2. If $\angle A$ and $\angle B$ are complimentary angles such that $2\angle B = \angle A$, then find the measurement of each angle.

3. If the difference of two supplementary angles is 100°, then find the measure of each angle.

4.An angle is equal to five times of its compliment.Find the measure of the angle.

5. If an angle is 10° more than its compliment, then find it.

Short Answer Type-1

1. The supplement of an angle is one fifth of itself. Determine the angle and its supplement.

2. The angles of a triangle are in the ratio 2:3:4. Find the angles of the triangle.

3. How many triangles can be drawn having its angles as 53°, 64° and 63°? Give reason for your answer.

4. An exterior angle of a triangle is 105° and its two interior angles are equal. Find the measure of these equal angles.

5. ∠AOC and ∠BOC are complimentary angles. If ∠AOC=(x+10)° and ∠BOC=2(x+5)°, then find x.

Short Answer Type-2

1. In ΔABC, if $\angle A - \angle B = 15°$, $\angle B - \angle C = 30°$, find $\angle A$, $\angle B$ & $\angle C$.

2. An exterior angle of a triangle is 110° and one of the interior opposite angles is 30°. Find the other two angles of the triangle.

3. In ΔABC, $\angle A+\angle B=122°$ and $\angle B+\angle C=111°$. Find the measure of $\angle B$ and $\angle C$.

4. ΔABC is a right angled triangle in which ∠A=90° and AB=AC, find the value of $\angle B$ and $\angle C$.

5. Of the three angles of a triangle one is twice the smallest and another is three times the smallest. Find the angles.

Long Answer Type

1.Bisectors of interior ∠B and exterior ∠ACD of a ΔABC intersect at the point T,prove that

$\angle BTC=\frac{1}{2}\angle BAC$.

2.A transversal intersects two parallel lines.Prove that the bisectors of any pair of corresponding angles so formed are parallel.

3.Prove that a triangle must have atleast two acute angles.

4.In the figure,pg 210 lines AB and CD intersect at O.If ∠AOC+∠BOE = 70° and ∠BOD =40°,find∠BOE and reflex ∠COE.

5.In fig.6 pg213 PQ and RS are two mirrors placed parallel to each other. An incident ray AB strikes the mirror PQ at B, the reflected ray moves along the path BC and strikes the mirror RS at C and again reflects back along CD.Prove that AB ‖ CD.