INDIAN SCHOOL NIZWA - WORKSHEET

MATHEMATICS

8. QUADRILATERALS

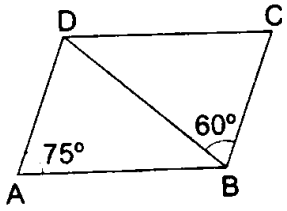
Name: _____ Date:_____ Class: IX Sec: ___

1. In a palellogram PQRS, if $\angle P = 128^0$, then $\angle Q$ is :

   a) 128^0 b) 52^0 c) 62^0 d) 72^0

2. In the adjoining figure, ABCD is a parallelogram in which $\angle BAD = 75^0$ and $\angle CBD = 60^0$, then $\angle BDC$ *is* :

   a) 75^0 b) 50^0 c) 45^0 d) 60^0



3. The angles of a quadrlateral are in the ration 2:4:5:7, then the largest of these angles is:

   a) 140^0 b) 130^0 c) 125^0 d) 135^0

4. Match column I with column II and choose the correct option:

Column I	Column II
(A) Opposite angles of a parallelogram are	(i) supplementary
(B) Adjacent angles of a parallelogram are	(ii) equal
(C) Diagonals of a parallelogram divide into	(iii) equal
(D) Opposite sides of a parallelogram are	(iv) Two congruent triangles

   (a) (A)-(iii), (B)-(i) , (C)-(ii) , (D)-)(iv)

   (b) (A)-(ii), (B)-(i) , (C)-(iv) , (D)-)(iii)

   (c) (A)-(i), (B)-(iv) , (C)-(ii) , (D)-)(iii)

   (d) (A)-(iii), (B)-(ii) , (C)-(iv) , (D)-)(i)

5. In triangle ABC, D and E are the mid points of sides AB and AC, respectivley. IF BC=12cm, find the length of segment DE.

   a) 6cm b) 8cm c) 12cm d) 24cm

6. If bisectors of $\angle A$ *and* $\angle B$ of a quadrilateral ABCD intersect each other at P, of $\angle B$ *and* $\angle C$ at Q, of $\angle C$ *and* $\angle D$ at R and $\angle D$ *and* $\angle A$ at S. then PQRS is a

   a) rectangle b) rhombus c) parallelogram d) quadrilateral whose opposite angles are

supplementary

7. The diagonals AC and BD of a parallelogram ABCD intersect each other at the point O. If $\angle DAC = 30^0$ and $\angle AOB = 70^0$, then $\angle DBC$ is equal to:

   a) 24^0 b) 86^0 c) 38^0 d) 32^0

8. The figure obtained by joining the mid points of the sides of a rhombus, taken in order, is :

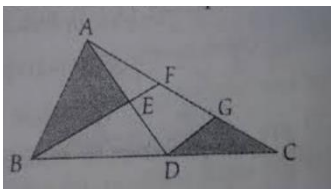
   a) a rhombus b) a rectangle c) a square d) any parallelogram

9. Assertion (A): The diagonals of a parallelogram divide in into two congruent triangles.
   Reason (R): A parallelogram has opposite sides that are equal and parallel.

10. In ΔABC, D,E and F are the mid-points of sides AB,BC and CA, respectively. If AB=6cm, BC=7.2cm and AC=7.8 cm, find the perimeter of ΔDEF.

11. Two parallel lines *l and m* are intersected by a transversal *t.* Show that the quadrilateral formed by bisectors of interior angles in a rectangle.

12. In the given figure, AD is the median of ΔABC. E is the mid point of AD. DG ∥ BF. Prove that AC=3AF.



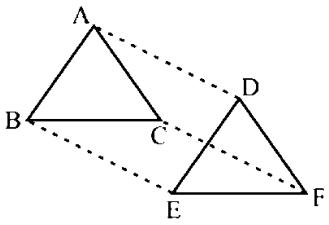
13. IfΔ ABC and Δ DEF are two triangles such that AB,BC are respectively equal and parallel to DE, EF then show that:

   i) quadrilateral ABED is a parallelogram

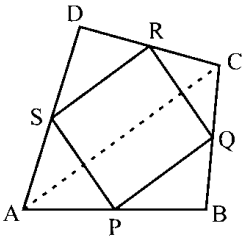
   ii) Quadrilateral BCFE is a parallelogram

   iii) AC=DF

   iv) $\Delta ABC \cong \Delta DEF$



14. **Case study:** Maths teacher of class IX gave students coloured paper in the shape of a quadrilateral and then ask the students to make parallelogram from it by using paper folding:



   i) How can a parallogram be formed by using paper folding?

      a) By joining two vertices

      b) b) by joining one pair of opposite vertices

      c) By joining mid points of sides of a quadrilateral

      d) d) none of the above

   ii) If $\angle RSP = 30^0$, then $\angle RQP$ =?

   iii) If $\angle RSP = 50^0$, then $\angle SPQ$ =?

   iv) If SP=3cm, the RQ=?