1. A diagonal AC divides parallelogram ABCD into which pair of triangles?
   A. ΔABC and ΔACD B. ΔABC and ΔDAC
   C. ΔABC and ΔBCD D. ΔABC and ΔCDA (D)

Explanation : Diagonal AC divides ABCD into ΔABC and ΔCDA, which are congruent by ASA.

2. In a rhombus, if one diagonal is 10 cm, what is the length of its half?
   A. 2 cm B. 5 cm
   C. 10 cm
   D. Cannot be determined (B)

Explanation : Diagonals bisect each other in a rhombus, so half of 10 cm = 5 cm.

3. Which of these quadrilaterals has diagonals that bisect each other but are not necessarily equal or perpendicular?
   A. Square B. Rhombus
   C. Parallelogram D. Rectangle (C)

Explanation : In a parallelogram, diagonals bisect each other but may not be equal or perpendicular.

4. In triangle ABC, D and E are mid-points of AB and AC. If DE is joined, what is the relation between ∠AEF and ∠ABC?
   A. ∠AEF > ∠ABC B. ∠AEF < ∠ABC
   C. ∠AEF = ∠ABC D. No relation (C)

Explanation : ∠AEF and ∠ABC are equal as per mid-point theorem construction.

5. In a rectangle ABCD, diagonal AC bisects ∠A. What must be true about ∠C?
   A. ∠C = 45° B. ∠C = 90°
   C. ∠C is bisected by AC D. ∠C = ∠A (C)

Explanation : If diagonal AC bisects ∠A in a rectangle, it will also bisect ∠C due to symmetry.

6. In a parallelogram ABCD, AP and CQ are perpendiculars from A and C to diagonal BD. Then :
   A. AP = CQ B. AP > CQ
   C. CQ > AP D. AP + CQ = BD (A)

Explanation : ΔAPB ≅ ΔCQD implies AP = CQ by CPCT.

7. In a parallelogram ABCD, diagonal AC bisects ∠A. Then which of the following is true?
   A. ABCD is a square B. ABCD is a rhombus
   C. AC = BD D. ∠C is obtuse (B)

Explanation : If a diagonal bisects an angle in a parallelogram, it's a rhombus.

8. A triangle is divided into 4 congruent triangles by joining the mid-points of its sides. What shapes are formed inside?
   A. Parallelograms B. Rhombuses
   C. Congruent Triangles D. Squares (C)

Explanation : Joining mid-points forms 4 congruent triangles inside the triangle.

9. If AB || CD and AD = BC in trapezium ABCD, then which triangles are congruent?
   A. ΔABC ≅ ΔBCD B. ΔABC ≅ ΔBAD
   C. ΔABD ≅ ΔCDB D. ΔDAB ≅ ΔCBD (B)

Explanation : Equal sides and parallel lines make ΔABC ≅ ΔBAD by SAS rule.

10. In parallelogram ABCD, P and Q lie on diagonal BD such that DP = BQ. Which of the following is true?
    A. ΔAPD ≅ ΔCQB B. ΔAQB ≅ ΔCPD
    C. AP = CQ D. All of these (D)

Explanation : All are results of congruency of triangles formed using midpoint equality and CPCT.