1. If PQ ∥ RS, prove that ΔPOQ ~ ΔSOR.
   A. By AA similarity criterion
   B. By SAS similarity criterion
   C. By SSS similarity criterion
   D. By ASA similarity criterion (A)

Explanation : Since PQ ∥ RS, corresponding angles are equal, proving similarity by AA criterion.

2. In the figure, if ∠P = 80° and ∠Q = 60°, what is ∠PQR?
   A. 30° B. 40°
   C. 50° D. 60° (B)

Explanation: By angle sum property of a triangle, ∠PQR = 180° − (80° + 60°) = 40°.

3. If OA = OB and OC = OD, prove that ∠A = ∠C and ∠B = ∠D.
   A. By AA criterion
   B. By SAS criterion
   C. By SSS criterion
   D. By ASA criterion (A)

Explanation: If two triangles have equal corresponding sides and angles, then their corresponding angles are equal by AA criterion.

4. A girl of height 90 cm is walking away from the base of a lamp-post at 1.2 m/s. If the lamp is 3.6 m above the ground, find the length of her shadow after 4 seconds.
   A. 3.6 meters B. 4.8 meters
   C. 5.6 meters D. 6.4 meters (B)

Explanation: By using similar triangles formed by the girl and the lamp-post, the shadow length is calculated as 4.8 meters.

5. In ΔABC and ΔPQR, CM and RN are the medians of ΔABC and ΔPQR, respectively. Prove that ΔAMC ~ ΔPNR.
   A. By AA criterion B. By SAS criterion
   C. By SSS criterion D. By ASA criterion (A)

Explanation : By using the properties of medians in similar triangles, ΔAMC ~ ΔPNR by the AA criterion.

6. If ΔABC ~ ΔPQR, prove that CM/AB = RN/PQ.
   A. By SAS similarity
   B. By AA similarity
   C. By properties of medians
   D. By properties of altitudes (C)

Explanation : Using the property of medians in similar triangles, the proportionality CM/AB = RN/PQ holds.

7. In ΔABC ~ ΔPQR, if the ratio of corresponding sides is 2 : 3, the ratio of the areas is:
   A. 2:3 B. 4:9
   C. 6:9 D. 3:2 (B)

Explanation : The ratio of areas is the square of the ratio of corresponding sides, i.e., $(2/3)^2$ = 4/9.

8. If two triangles are similar, the corresponding heights are:
   A. Equal B. Proportional
   C. Same D. None of these
   (B)

Explanation : In similar triangles, corresponding heights are proportional to the corresponding sides.

9. If ∠A = ∠P and ∠B = ∠Q, then ΔABC ~ ΔPQR by:
   A. AA similarity criterion
   B. SAS similarity criterion
   C. SSS similarity criterion
   D. None (A)

Explanation : AA similarity criterion states that if two angles of one triangle are equal to two angles of another triangle, they are similar.

10. In ΔABC, ∠A = 60°, ∠B = 80°, and ∠C = 40°. In ΔDEF, ∠D = 60°, ∠E = 80°, and ∠F = 40°. Are these triangles similar?
    A. Yes
    B. No
    C. Cannot be determined
    D. Only if sides are proportional (A)

Explanation : Since all corresponding angles are equal, ΔABC ~ ΔDEF by the AA criterion.