1. In ΔABC and ΔPQR, if sides AB = PQ, BC = QR, and median AM = PN, what congruence rule can be applied to ΔABM and ΔPQN?
A. SAS rule
B. SSS rule
C. RHS rule
D. ASA rule (C)
Explanation: Since AB = PQ, BC = QR, and AM = PN, ΔABM and ΔPQN are congruent by the RHS congruence rule for right-angled triangles.

2. IF ΔABM ΔPQN, what can be concluded about ΔABC and ΔPQR?
A. ΔABC ≠ ΔPQR
B. ΔABC ≅ ΔPQR
C. ΔABC is equilateral
D. ΔABC is scalene (B)
Explanation: Since ΔABM = ΔPQN and both triangles share sides, ΔABC = ΔPQR by the SSS congruence rule.

Q3. In ΔABC, if BE and CF are two equal altitudes, what does this imply about the triangle?
A. ΔABC is equilateral
B. ΔABC is scalene.
C. ΔABC is isosceles
D. ΔABC is right-angled (C)
Explanation: Since BE = CF and both are altitudes from equal sides, ΔABC is isosceles with AB = AC.

4. In ΔABC, if the altitude BE = CF, what congruence rule can be applied to ΔABE and ΔACF?
A. SAS rule
B. SSS rule
C. RHS rule
D. AAS rule (C)
Explanation: Since BE = CF and AABE and AACF share common angles and a side, we can apply the RHS congruence rule to prove ΔABE ≅ ΔACF.

5. In an isosceles triangle ABC with AB = AC, if AP is perpendicular to BC, what can be concluded about <B and C?
A. ∠B = ∠C
B. ∠B ≠ ∠C
C. ∠B > ∠C
D. ∠B < ∠C (A)
Explanation: Since AB = AC and AP is perpendicular to BC, ΔABC is isosceles, and thus B = C

6. In ΔABC, if AB = AC and AP ⊥ BC, what type of triangle is ΔABC?
A. Equilateral triangle
B. Scalene triangle
C. Isosceles triangle
D. Right-angled triangle (C)
Explanation: Since AB = AC and AP is perpendicular to BC, ΔABC is an isosceles triangle.

7. If ΔABC is isosceles with AB = AC, what can be said about the altitudes from points B and C to base BC?
A. They are equal
B. They are unequal
C. One is greater than the other
D. They are perpendicular to AB (A)
Explanation: In an isosceles triangle, the altitudes from the equal sides to the base are equal.

8. In an isosceles triangle ABC, if AB = AC and AP ⊥ BC, what does this imply?
A. AB = AC and ∠B = ∠C
B. ΔABC is scalene
C. ΔABC is right-angled
D. ΔABC is equilateral (A)
Explanation: Since AB = AC and AP is perpendicular to BC, ΔABC is isosceles, and thus ∠B = ∠C.

9. In ΔABC, if AD is the altitude from vertex A and AB = AC, what can be concluded about ΔABD and ΔACD?
A. ΔABO = ΔACD
B. ΔABD + ΔACD
C. ΔABD is smaller than ΔACD
D. ΔABD is larger than ΔACD (A)
Explanation: Since AD is the altitude and AB = AC, ΔABD = ΔACD by the criteria of congruence (SSS or ASA).

10. In ΔABC, if BE = CF and BE and CF are altitudes from equal sides AB and AC, what can be concluded about ΔABC?
A. ΔABC is equilateral
B. ΔABC is right-angled
C. ΔABC is isosceles
D. ΔABC is scalene (C)
Explanation: Since BE = CF and AB = AC, ΔABC must be isosceles.