Congruent Triangle Answers

Q1-

PR = QS (opposite sides of a parallelogram are equal)

PQ = RS

QR is common to both triangles

SSS

Q2-

PR = QS (opposite sides of a parallelogram are equal)

PRQ = QRS (Alternate angles are equal)

RPS = PSQ

ASA

Q3-

PSQ = 180 - 76 - 41 = 63°

Angles in a triangle add to 180°

SQ is common to both triangles

PQS = QRS

RQS = QPS

ASA

Q4-

SRQ = SPQ = 90° (Tangent meets radius at 90°)

SQ is common to both triangles.

SP = SR (both a radius)

RHS

Q5-

PT = QT T is the midpoint of PQ

PTS = TQU Corresponding angles are equal

RU = ST opposite sides of a parallelogram are equal

RU = UQ U is the midpoint of RQ

:. TS = UQ

SAS

Q6-

PQ = PR (Lengths of equilateral triangle are equal)

PS is common to both triangles

Triangle PQS and triangle PRS are right angled (given)

Triangle PQS and Triangle PRS are congruent RHS

:. Angle RPS = Angle QPS

Q7-

Triangle PQR and triangle PSR are congruent

PQ = PS (given)

QR = RS (given)

PR is common to both triangles.

SSS

.: Angle PQR = Angle PSR