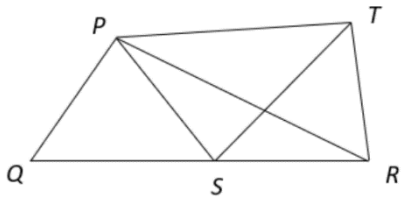
STANDARD 8TH: CHAPTER 13
Congruence Of Triangle

Q.1. Choose the correct alternative:

1. Given that ∠A = ∠P and AC = PR. Then, which of the following conditions are true for Δ PQR and Δ ABC to be congruent.

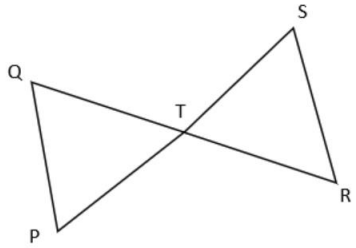
   a. BC = QR by ASS criteria
   b. BC = QR by SSA criteria
   c. AB = PQ by SAS criteria
   d. AB = PQ by SSA criteria

2. Which of the following relation is correct if PQ = PS, PR = PT and ∠QPS = ∠TPR?



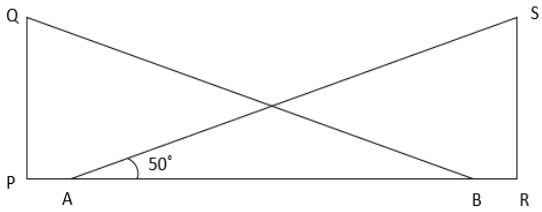
   a. QR = ST
   b. QR > ST
   c. QR < ST
   d. QR = QP

3. What is the length of TS if PT = 6 cm and PQ || RS and T is the midpoint of QR?



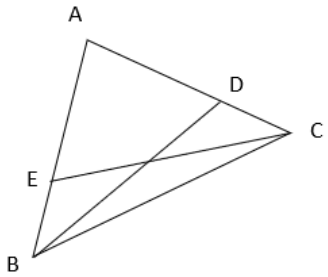
   a. 5cm
   b. 6cm
   c. 7cm
   d. 8cm

4. What is the value of ∠PQB if PQ ⊥ PB and RS ⊥ AR and RS = PQ, AP = BR?



   a. 30^0
   b. 50^0
   c. 60^0
   d. 40^0

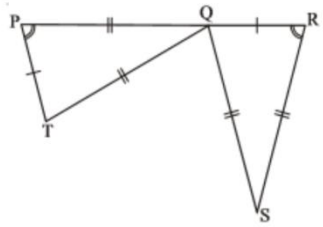
5. Which of the following relation is correct if the altitudes BD and CE are equal?



   a. AB = AC
   b. AB > AC
   c. AB < AC
   d. AB = ½ AC

6. If △ABC≅△PQR, then which of the following is not true?
   a. BC=PQ
   b. AC=PR
   c. QR=BC
   d. AB=PQ

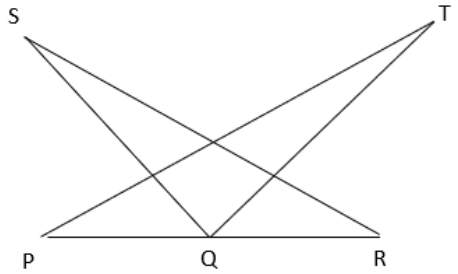
7. Complete the congruence statement: Δ QRS ≅ ?



   a. ΔTPQ
   b. ΔTQP
   c. ΔQTP
   d. ΔQPT

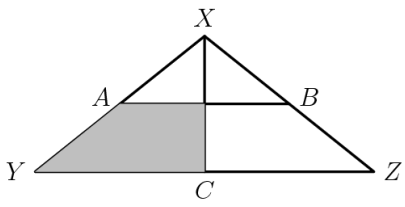
8. Two figures are said to be congruent if they have exactly the same:
    a. length and width
    b. shape and size
    c. area
    d. Perimeter

9. Which of the following option is correct if ∠PQS = ∠TQR, ∠SRP = ∠TPR and PQ = QR?



    a. QS = QT
    b. QS = 2QT
    c. PT = 2 RS
    d. PT = ½ RS

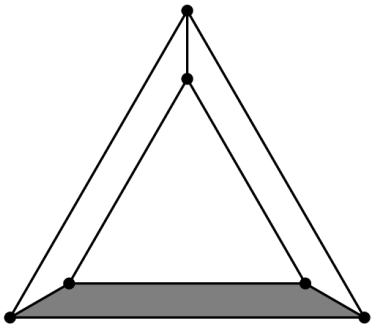
10. The area of triangle XYZ is 8 square inches. Points A and B are midpoints of congruent segments $\overline{XY}$ and $\overline{XZ}$. Altitude $\overline{XC}$ bisects $\overline{YZ}$. The area (in square inches) of the shaded region is



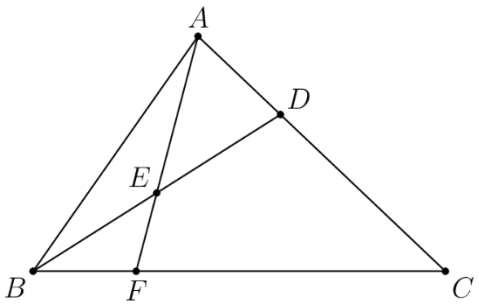
    a. $1\frac{1}{2}$
    b. 2
    c. $2\frac{1}{2}$
    d. 3

Q.2. Solve the following

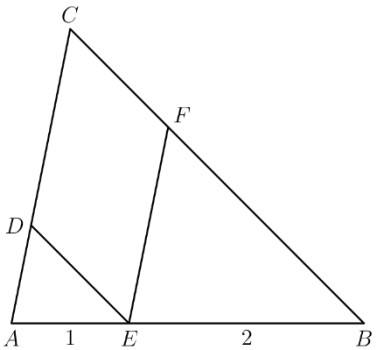
1. An equilateral triangle is placed inside a larger equilateral triangle so that the region between them can be divided into three congruent trapezoids, as shown below. The side length of the inner triangle is $\frac{2}{3}$ the side length of the larger triangle. What is the ratio of the area of one trapezoid to the area of the inner triangle?



2. In triangle $\triangle ABC$, point D divides side $\overline{AC}$ so that $AD : DC = 1 : 2$. Let E be the midpoint of $\overline{BD}$ and let F be the point of intersection of line $\overline{BC}$ and line $\overline{AE}$. Given that the area of $\triangle ABC$ is 360, what is the area of $\triangle EBF$?

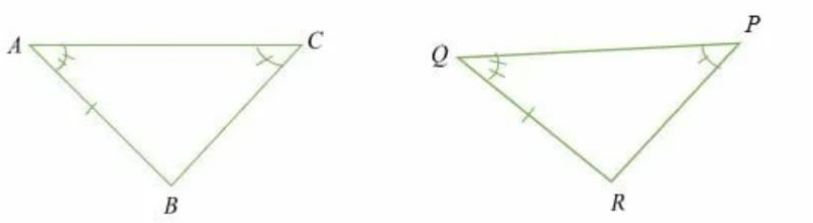


3. In ΔABC a point E is on $\underline{AB}$ with $AE = 1$ and $EB = 2$. Point D is on $\underline{AC}$ so that $\underline{DE} \parallel \underline{BC}$ and point F is on $\underline{BC}$ so that $\underline{EF} \parallel \underline{AC}$ What is the ratio of the area of $CDEF$ to the area of ΔABC?

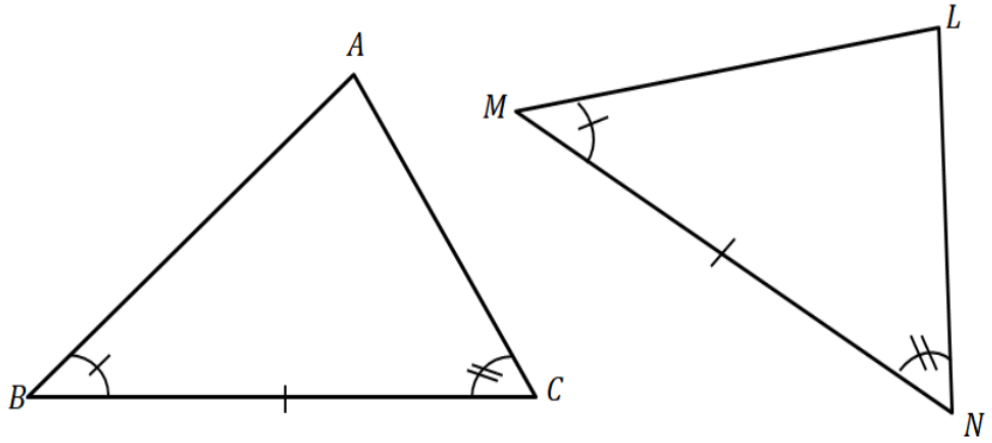


4. State and prove side-angle side test.

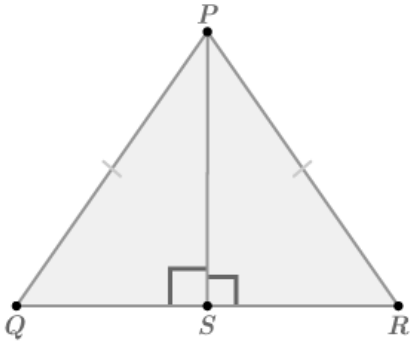
5. Given that $\angle ABC$ = (2x + 30) °, $\angle PQR$ = 55 ° *and* $\angle RPQ$ = 65 °, find the value of x.



6. For the triangles shown below, $\angle ABC = 36^0$ and $\angle LMN = (2x - 4)^0$. If $\angle ACB = (4x - 15)^0$, what is the measure of $\angle LNM$?



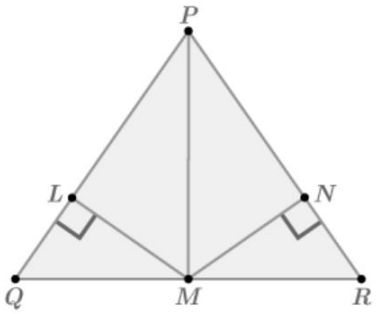
7. In the given figure, $PQ = PR$, $\angle QSP = \angle RSP = 90^0$. Prove that
   a. $\triangle PSQ \cong \triangle PSR$
   b. $\angle Q = \angle R$
   c. $QS = RS$



8. In ΔABC, the bisector of $\angle A$ intersect $\underline{BC}$ at point D. Then prove that

$BD \times AC = DC \times AB$

9. In the given figure, $LM = NM$, $ML \perp PQ$ and $MN \perp PR$. Prove that $\angle LPM = \angle NPM$.



10. In the given figure, $\triangle TUS$ and $\triangle PQR$ are right angled at U and Q respectively. Prove that $\triangle PQR \cong \triangle TUS$.