EduSahara™ Assignment

Name : Quadrilateral Angle Properties

Chapter : Quadrilaterals

Grade : ICSE Grade VIII

1. In parallelogram ABCD, if ∠C = 36.58°, then find the value of ∠A

   (i) 36.58° (ii) 35.58° (iii) 34.58° (iv) 37.58° (v) 38.58°

2. If the opposite angles of a parallelogram are supplementary, the measure of each of its angles is

   (i) 90° (ii) 92° (iii) 91° (iv) 88° (v) 89°

3. The sum of the interior angles of a quadrilateral is

   (i) 90° (ii) 360° (iii) 270° (iv) 180°

4. If ABCD is an isosceles trapezium, ∠D =

   (i) 90° (ii) ∠A (iii) ∠C (iv) ∠B

5. PQRS is a rhombus in which ∠P = 120° .
   $\overline{QS}$
   is the diagonal. Then △PQR is

   (i) an obtuse angled triangle (ii) a scalene triangle (iii) None of these (iv) an isosceles triangle

   (v) an equilateral triangle

6. MNOP is a rhombus in which ∠M = 127° .
   $\overline{NP}$
   is the diagonal. Then △MNO is

   (i) a scalene triangle (ii) an obtuse angled triangle (iii) an equilateral triangle (iv) an isosceles triangle

   (v) None of these

7. The angles of a quadrilateral MNOP are in the ratio 18 : 13 : 28 : 61. Find the measure of each angle of the quadrilateral.

   (i) M=54°,N=39°,O=84°,P=183° (ii) M=55°,N=38°,O=86°,P=181° (iii) M=56°,N=38°,O=82°,P=184°

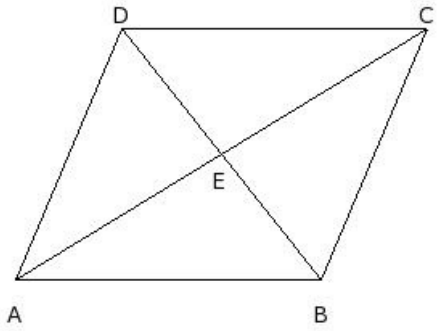
   (iv) M=53°,N=37°,O=85°,P=185° (v) M=52°,N=41°,O=83°,P=184°

8. Two adjacent angles of a parallelogram HIJK are in the ratio 20 : 70. Find the measure of each of its angles.

   (i) H=39°,I=138°,J=41°,K=142° (ii) H=40°,I=140°,J=40°,K=140° (iii) H=41°,I=139°,J=42°,K=138°

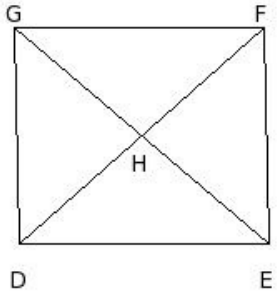
   (iv) H=38°,I=142°,J=39°,K=141° (v) H=42°,I=139°,J=38°,K=141°

9. In the adjoining figure, $ABCD$ is a parallelogram in which $\angle DAC = 35.71°, \angle CAB = 31.36°, \angle DEC = 97.12°$. Calculate $\angle ABD$



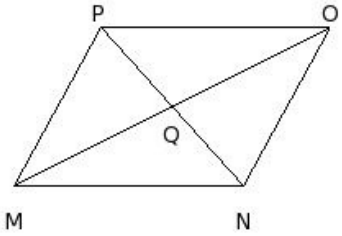
(i) 50.52° (ii) 53.52° (iii) 52.52° (iv) 49.52° (v) 51.52°

10. In the adjoining figure, $DEFG$ is a parallelogram in which $\angle GDF = 49.64°, \angle FDE = 41.68°, \angle GHF = 98.16°$. Calculate $\angle FGE$



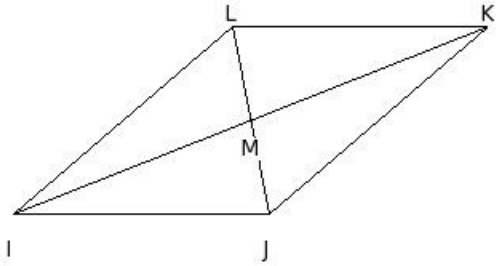
(i) 38.16° (ii) 39.16° (iii) 41.16° (iv) 42.16° (v) 40.16°

11. In the adjoining figure, $MNOP$ is a parallelogram in which $\angle PMO = 34.78°, \angle OMN = 26.57°, \angle PQO = 104.47°$. Calculate $\angle NOM$



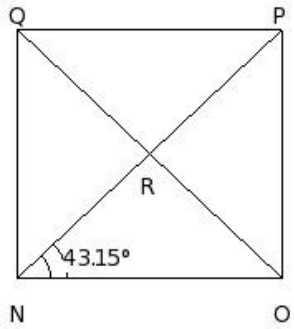
(i) 34.78° (ii) 36.78° (iii) 35.78° (iv) 33.78° (v) 32.78°

12. In the adjoining figure, $IJKL$ is a parallelogram in which $\angle LIK = 19.1°, \angle KIJ = 21.4°, \angle LMK = 78.96°$. Calculate $\angle LJK$



(i) 61.86° (ii) 60.86° (iii) 59.86° (iv) 58.86° (v) 57.86°

13. In the adjoining figure, NOPQ is a rectangle. If ∠PNO = 43.15°, find ∠NOQ



(i) 43.15° (ii) 45.15° (iii) 42.15° (iv) 44.15° (v) 41.15°

14. Three angles of quadrilateral measure 80.94°, 97.28° and 105.55° respectively. Find the measure of the fourth angle

(i) 76.23° (ii) 78.23° (iii) 77.23° (iv) 74.23° (v) 75.23°

15. Three angles of a quadrilateral are equal and the fourth angle measure 47.7°. What is the measure of each of the equal angles?

(i) 105.10° (ii) 104.10° (iii) 102.10° (iv) 103.10° (v) 106.10°

16. Two angles of a quadrilateral are of measure 29.54° and 149.28° respectively and the other two angles are equal. Find the measure of each of the equal angles.

(i) 91.59° (ii) 90.59° (iii) 88.59° (iv) 89.59° (v) 92.59°

17. A quadrilateral has three acute angles, each measuring 38°. What is the measure of its fourth angle?

(i) 246.00° (ii) 244.00° (iii) 247.00° (iv) 245.00° (v) 248.00°

18. One angle of a parallelogram measures $F = 74.85°$.
Find the measure of each of its remaining angles.

(i) $G=103.15°, H=72.85°, I=103.15°$ (ii) $G=106.15°, H=75.85°, I=106.15°$

(iii) $G=104.15°, H=73.85°, I=104.15°$ (iv) $G=105.15°, H=74.85°, I=105.15°$

(v) $G=107.15°, H=76.85°, I=107.15°$

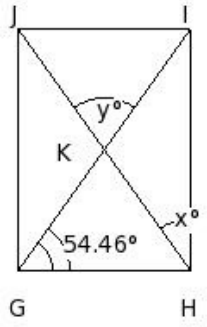
19. Two adjacent angles of a parallelogram are in the ratio $13 : 23$.
Find the measure of each of its angles.

(i) $A=66°, B=114°, C=67°, D=113°$ (ii) $A=65°, B=115°, C=65°, D=115°$

(iii) $A=63°, B=117°, C=64°, D=116°$ (iv) $A=67°, B=114°, C=63°, D=116°$

(v) $A=64°, B=113°, C=66°, D=117°$

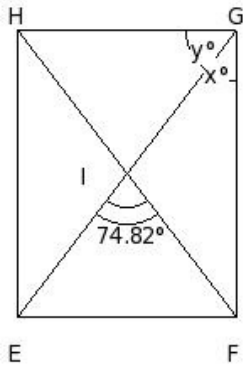
20. In the figure given below, GHIJ is a rectangle. Find the values of x and y



(i) x=33.54°,y=69.08° (ii) x=35.54°,y=71.08° (iii) x=34.54°,y=70.08° (iv) x=37.54°,y=73.08°

(v) x=36.54°,y=72.08°

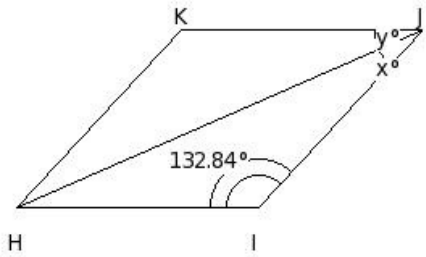
21. In the figure given below, EFGH is a rectangle. Find the values of x and y



(i) x=39.41°,y=54.59° (ii) x=38.41°,y=53.59° (iii) x=35.41°,y=50.59° (iv) x=36.41°,y=51.59°

(v) x=37.41°,y=52.59°

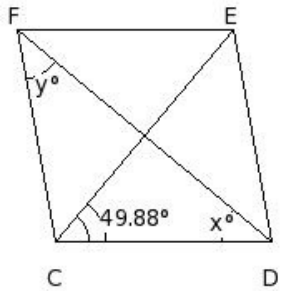
22. In the figure given below, HIJK is a rhombus. Find the values of x and y



(i) x=25.58°,y=25.58° (ii) x=23.58°,y=23.58° (iii) x=22.58°,y=22.58° (iv) x=21.58°,y=21.58°

(v) x=24.58°,y=24.58°

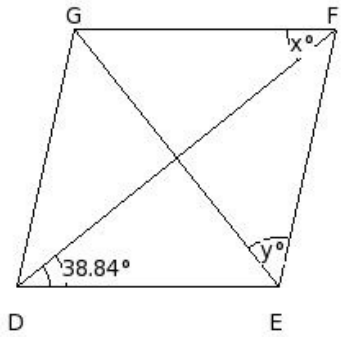
23. In the figure given below, CDEF is a rhombus. Find the values of x and y



(i) x=42.12°,y=42.12° (ii) x=38.12°,y=38.12° (iii) x=39.12°,y=39.12° (iv) x=40.12°,y=40.12°

(v) x=41.12°,y=41.12°

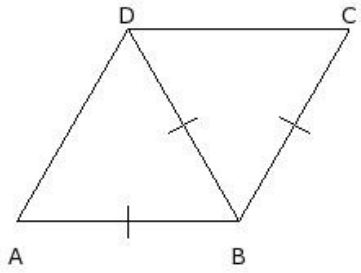
24. In the figure given below, DEFG is a rhombus. Find the values of x and y



(i) $x=36.84°, y=49.16°$ (ii) $x=40.84°, y=53.16°$ (iii) $x=38.84°, y=51.16°$ (iv) $x=39.84°, y=52.16°$

(v) $x=37.84°, y=50.16°$

25. One of the diagonals of a rhombus is equal to one of its sides. Find the angles of the rhombus

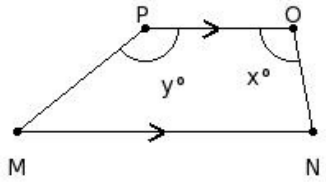


(i) $A=62°, B=119°, C=58°, D=121°$ (ii) $A=61°, B=119°, C=62°, D=118°$

(iii) $A=59°, B=118°, C=61°, D=122°$ (iv) $A=58°, B=122°, C=59°, D=121°$

(v) $A=60°, B=120°, C=60°, D=120°$

26. In the adjoining figure, MNOP is a trapezium in which $\overline{MN} \parallel \overline{OP}$.
If $x = 100.78°$ and $y = 141.07°$, find the measures of $\angle M$ and $\angle N$.

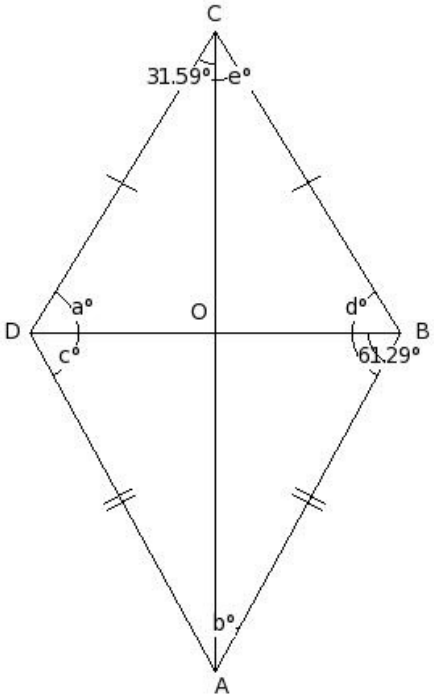


(i) $M=37.93°, N=78.22°$ (ii) $M=36.93°, N=77.22°$ (iii) $M=38.93°, N=79.22°$ (iv) $M=40.93°, N=81.22°$

(v) $M=39.93°, N=80.22°$

27. In the adjoining figure, $ABCD$ is a kite in which $AB = DA, BC = CD$ and the diagonals $\overline{BD}$ and $\overline{AC}$ intersect at O.

If ∠OCD = 31.59° and ∠ABO = 61.29°, find the measure of each of the angles marked a,b,c,d and e.



(i) a = 58.41° , b = 29.71° , c = 60.29° , d = 58.41° , e = 31.59°

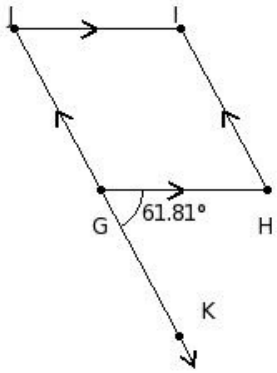
(ii) a = 58.41° , b = 29.71° , c = 60.29° , d = 60.41° , e = 31.59°

(iii) a = 58.41° , b = 28.71° , c = 61.29° , d = 58.41° , e = 31.59°

(iv) a = 58.41° , b = 29.71° , c = 60.29° , d = 60.41° , e = 29.59°

(v) a = 58.41° , b = 29.71° , c = 61.29° , d = 58.41° , e = 31.59°

28. In the adjoining figure, side JG of parallelogram GHIJ has been produced to K. If ∠HGK = 61.81° , find the measure of each angle of the parallelogram.

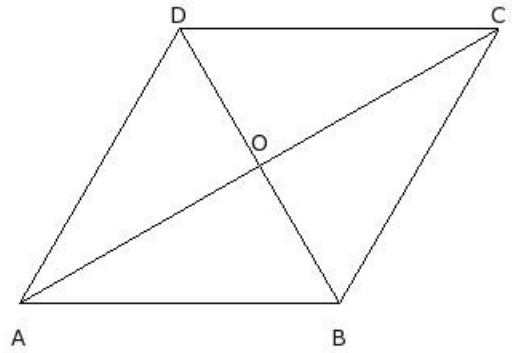


(i) G=116.19°,H=63.81°,I=117.19°,J=62.81° (ii) G=118.19°,H=61.81°,I=118.19°,J=61.81°

(iii) G=117.19°,H=59.81°,I=119.19°,J=63.81° (iv) G=120.19°,H=60.81°,I=116.19°,J=62.81°

(v) G=119.19°,H=60.81°,I=120.19°,J=59.81°

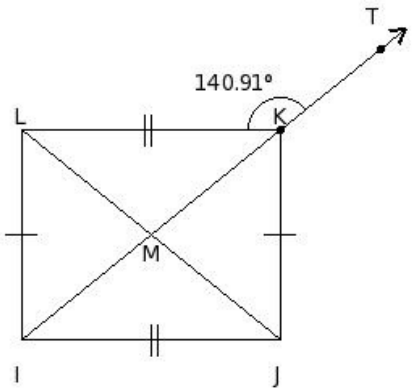
29. In the adjoining figure, $ABCD$ is a rhombus whose diagonals intersect at O.
If $\angle OAB : \angle ABO = 3 : 6$, find the angles of $\triangle OAB$.



(i) $O = 90°, A = 30°, B = 60°$ (ii) $O = 88°, A = 30°, B = 62°$ (iii) $O = 88°, A = 32°, B = 60°$ (iv) $O = 92°, A = 30°, B = 58°$

(v) $O = 90°, A = 28°, B = 62°$

30. In the given figure, $IJKL$ is a rectangle whose diagonals intersect at M.
Diagonal IK is produced to T and $\angle LKT = 140.91°$. Find the angles of $\triangle MIJ$.



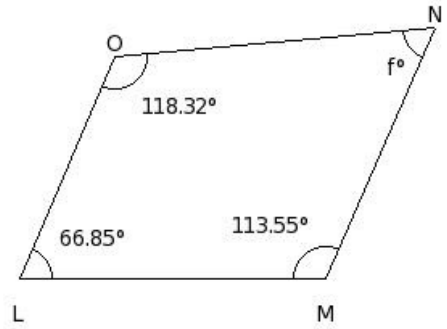
(i) $M = 101.82°, I = 37.09°, J = 41.09°$ (ii) $M = 103.82°, I = 39.09°, J = 37.09°$ (iii) $M = 101.82°, I = 39.09°, J = 39.09°$

(iv) $M = 99.82°, I = 39.09°, J = 41.09°$ (v) $M = 99.82°, I = 41.09°, J = 39.09°$

31. The measures of three angles of a quadrilateral are $72.62°, 109.42°$ and $81.28°$. Find the fourth angle

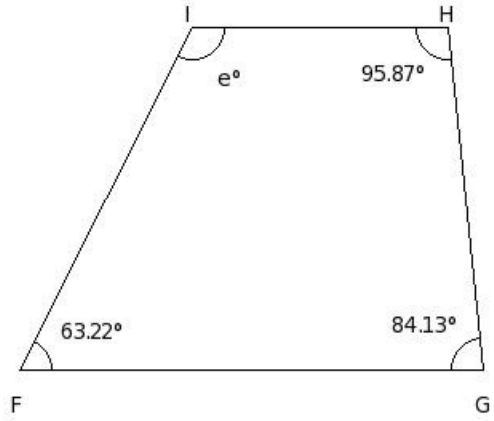
(i) 96.68° (ii) 106.68° (iii) 111.68° (iv) 126.68° (v) 101.68°

32. Find the missing angle in the given quadrilateral



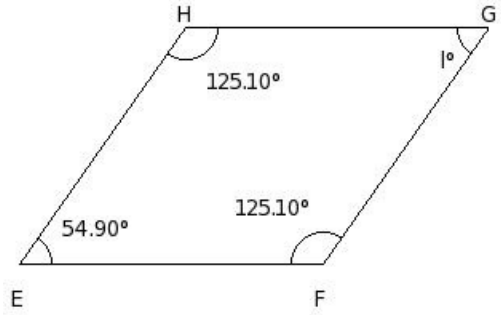
(i) 61.28° (ii) 71.28° (iii) 91.28° (iv) 66.28° (v) 76.28°

33. Find the missing angle in the given trapezium



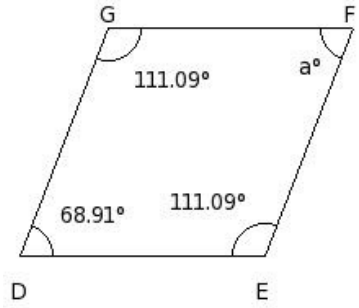
(i) 126.78° (ii) 131.78° (iii) 146.78° (iv) 121.78° (v) 116.78°

34. Find the missing angle in the given parallelogram



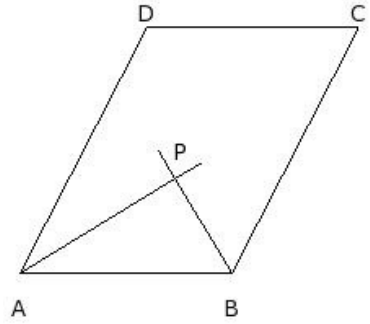
(i) 64.9° (ii) 59.9° (iii) 84.9° (iv) 69.9° (v) 54.9°

35. Find the missing angle in the given rhombus



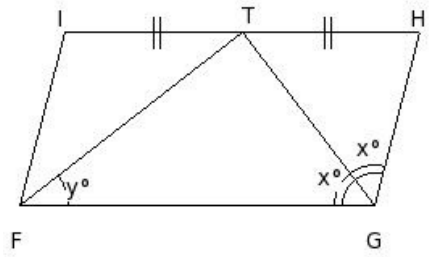
(i) 73.91° (ii) 78.91° (iii) 83.91° (iv) 98.91° (v) 68.91°

36. In the given figure, ABCD is a parallelogram.
If AP and BP are bisector of $\angle A$ & $\angle B$, find $\angle P$



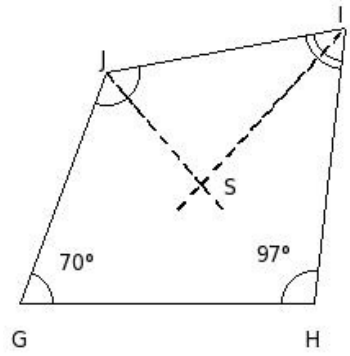
(i) 90° (ii) 92° (iii) 91° (iv) 89° (v) 88°

37. In the given figure, FGHI is a parallelogram. T is the mid-point of HI.
GT bisects ∠G. If x = 53°, find angle 'y'.



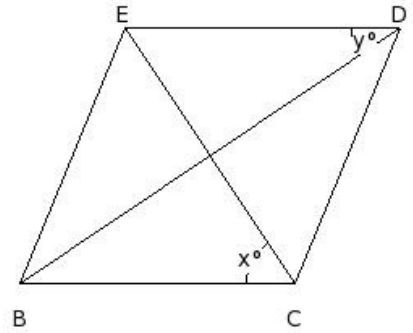
(i) 35° (ii) 39° (iii) 37° (iv) 38° (v) 36°

38. In the given figure, GHIJ is a quadrilateral. SJ and SI are bisectors of ∠J & ∠I meeting at S. Find ∠ISJ



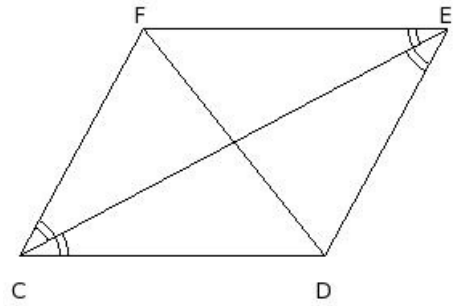
(i) 81.5° (ii) 83.5° (iii) 84.5° (iv) 82.5° (v) 85.5°

39. In the given figure, BCDE is a rhombus. Given x = 56°, find the value of 'y'.



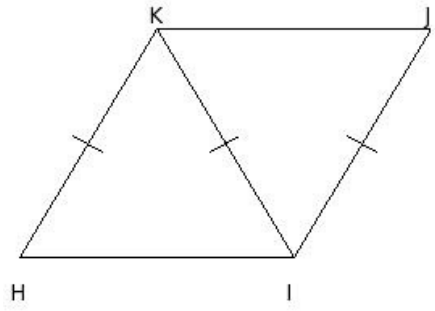
(i) 33° (ii) 34° (iii) 32° (iv) 36° (v) 35°

40. In the given figure, CDEF is a parallelogram. CE bisects ∠C & ∠E.
Given CE = 15 cm and DF = 10 cm, find CD



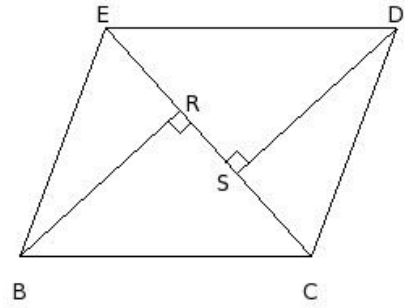
(i) 10.01 cm (ii) 8.01 cm (iii) 11.01 cm (iv) 9.01 cm (v) 7.01 cm

41. In the given figure, HIJK is a parallelogram. IK is the diagonal such that HK = IK = IJ. Given ∠H = 59°, find ∠KIJ



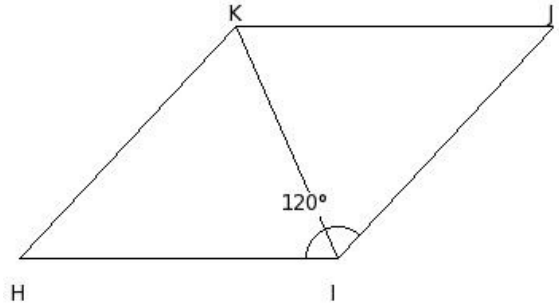
(i) 62° (ii) 63° (iii) 60° (iv) 64° (v) 61°

42. In the given figure, BCDE is a parallelogram. BR and DS are perpendicular to the diagonal CE. Given ∠SDE = 42°, find ∠ECB



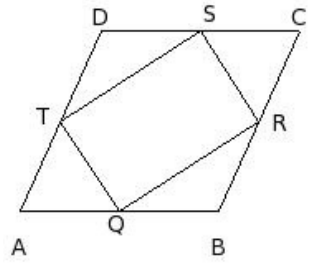
(i) 49° (ii) 47° (iii) 50° (iv) 46° (v) 48°

43. In the given figure, HIJK is a rhombus such that ∠I = 120°. Then △HIK is



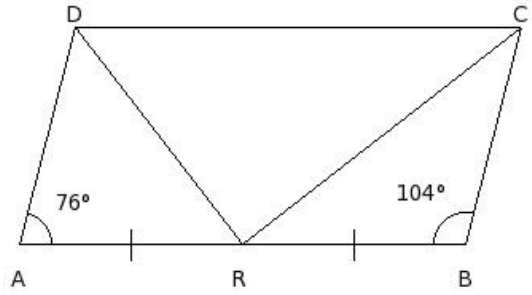
(i) Obtuse angled triangle (ii) Right angled triangle (iii) Equilateral triangle (iv) Isosceles triangle

44. ABCD is a rhombus. Q, R, S and T are mid-points of sides AB, BC, CD and DA. Find ∠RST



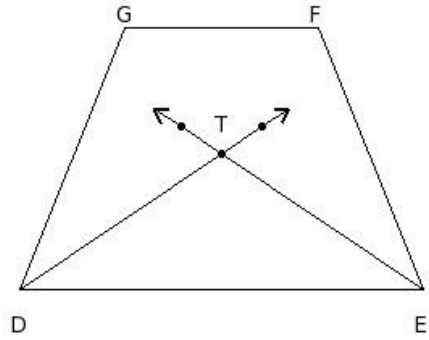
(i) 90° (ii) 89° (iii) 91° (iv) 88° (v) 92°

45. In the given figure, ABCD is a parallelogram such that R is the mid-point of AB and AB = 2DA. Find ∠DRC



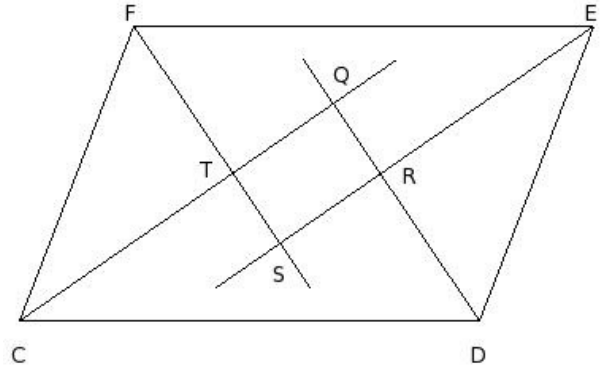
(i) 88° (ii) 89° (iii) 90° (iv) 92° (v) 91°

46. DEFG is an isosceles trapezium. DT and ET are angular bisector of ∠D & ∠E. If ∠D = 68°, find ∠DTE



(i) 113° (ii) 110° (iii) 112° (iv) 111° (v) 114°

47. In the given figure, CDEF is a parallelogram. The bisector of the angles C, D, E & F intersect at Q, R, S & T to form a quadrilateral. Find ∠QRS



(i) 91° (ii) 90° (iii) 88° (iv) 89° (v) 92°

Assignment Key

1) (i)	2) (i)	3) (ii)	4) (iii)	5) (v)	6) (iv)
7) (i)	8) (ii)	9) (v)	10) (v)	11) (i)	12) (iii)
13) (i)	14) (i)	15) (ii)	16) (ii)	17) (i)	18) (iv)
19) (ii)	20) (ii)	21) (v)	22) (ii)	23) (iv)	24) (iii)
25) (v)	26) (iii)	27) (iii)	28) (ii)	29) (i)	30) (iii)
31) (i)	32) (i)	33) (v)	34) (v)	35) (v)	36) (i)
37) (iii)	38) (ii)	39) (ii)	40) (iv)	41) (i)	42) (v)
43) (iii)	44) (i)	45) (iii)	46) (iii)	47) (ii)	