EduSahara™ Assignment

Name : Quadrilateral Angle Properties

Chapter : Quadrilaterals

Grade : ICSE Grade IX

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1. In parallelogram ABCD, if ∠B = 101.91°, then find the value of ∠C

   (i) 76.09° (ii) 79.09° (iii) 80.09° (iv) 77.09° (v) 78.09°

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

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

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

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

4. The angles of a quadrilateral DEFG are in the ratio 4 : 3 : 5 : 8. Find the measure of each angle of the quadrilateral.

   (i) D=72°,E=54°,F=90°,G=144° (ii) D=71°,E=52°,F=91°,G=146° (iii) D=73°,E=53°,F=92°,G=142°

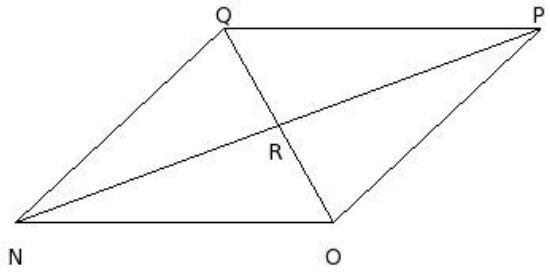
   (iv) D=70°,E=56°,F=89°,G=145° (v) D=74°,E=53°,F=88°,G=145°

5. Two adjacent angles of a parallelogram PQRS are in the ratio 6 : 6. Find the measure of each of its angles.

   (i) P=90°,Q=90°,R=90°,S=90° (ii) P=88°,Q=92°,R=89°,S=91° (iii) P=89°,Q=88°,R=91°,S=92°

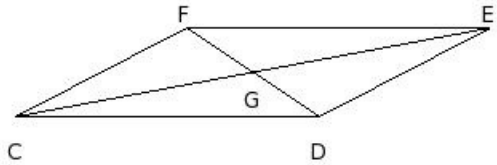
   (iv) P=92°,Q=89°,R=88°,S=91° (v) P=91°,Q=89°,R=92°,S=88°

6. In the adjoining figure, NOPQ is a parallelogram in which ∠QNP = 22.67°, ∠PNO = 20.29°, ∠QRP = 98.95°. Calculate ∠NOQ



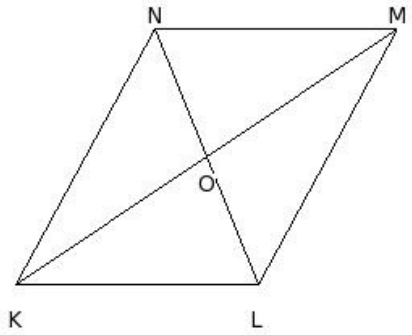
   (i) 58.76° (ii) 61.76° (iii) 62.76° (iv) 59.76° (v) 60.76°

7. In the adjoining figure, CDEF is a parallelogram in which ∠FCE = 16.87°, ∠ECD = 10.34°, ∠FGE = 135.03°. Calculate ∠EFD



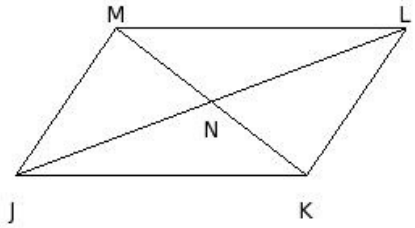
   (i) 32.63° (ii) 35.63° (iii) 33.63° (iv) 34.63° (v) 36.63°

8. In the adjoining figure, KLMN is a parallelogram in which $\angle NKM = 27.64°, \angle MKL = 33.8°, \angle NOM = 78.25°$. Calculate $\angle LMK$



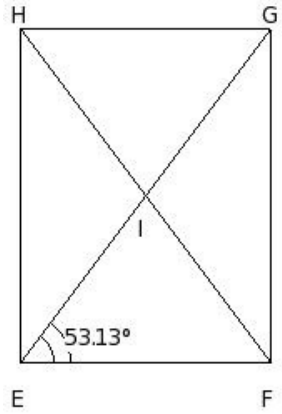
(i) 26.64° (ii) 27.64° (iii) 29.64° (iv) 28.64° (v) 25.64°

9. In the adjoining figure, JKLM is a parallelogram in which $\angle MJL = 35.33°, \angle LJK = 20.4°, \angle MNL = 121.24°$. Calculate $\angle MKL$



(i) 87.91° (ii) 83.91° (iii) 86.91° (iv) 85.91° (v) 84.91°

10. In the adjoining figure, EFGH is a rectangle. If $\angle GEF = 53.13°$, find $\angle FGE$



(i) 35.87° (ii) 37.87° (iii) 34.87° (iv) 36.87° (v) 38.87°

11. Three angles of quadrilateral measure 81.01°, 73.62° and 88.04° respectively. Find the measure of the fourth angle

(i) 117.33° (ii) 118.33° (iii) 115.33° (iv) 119.33° (v) 116.33°

12. Three angles of a quadrilateral are equal and the fourth angle measure 121.59°. What is the measure of each of the equal angles?

(i) 77.47° (ii) 81.47° (iii) 79.47° (iv) 80.47° (v) 78.47°

13. Two angles of a quadrilateral are of measure 43.69° and 144.91° respectively and the other two angles are equal. Find the measure of each of the equal angles.

(i) 86.70° (ii) 87.70° (iii) 84.70° (iv) 83.70° (v) 85.70°

14. A quadrilateral has three acute angles, each measuring 35°. What is the measure of its fourth angle?

(i) 255.00° (ii) 254.00° (iii) 253.00° (iv) 257.00° (v) 256.00°

15. One angle of a parallelogram measures $J = 73.69°$.
Find the measure of each of its remaining angles.

(i) $K = 107.31°, L = 74.69°, M = 107.31°$ (ii) $K = 105.31°, L = 72.69°, M = 105.31°$

(iii) $K = 108.31°, L = 75.69°, M = 108.31°$ (iv) $K = 104.31°, L = 71.69°, M = 104.31°$

(v) $K = 106.31°, L = 73.69°, M = 106.31°$

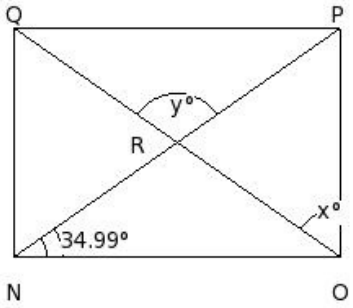
16. Two adjacent angles of a parallelogram are in the ratio $7 : 23$.
Find the measure of each of its angles.

(i) $A = 44°, B = 137°, C = 40°, D = 139°$ (ii) $A = 41°, B = 136°, C = 43°, D = 140°$

(iii) $A = 40°, B = 140°, C = 41°, D = 139°$ (iv) $A = 43°, B = 137°, C = 44°, D = 136°$

(v) $A = 42°, B = 138°, C = 42°, D = 138°$

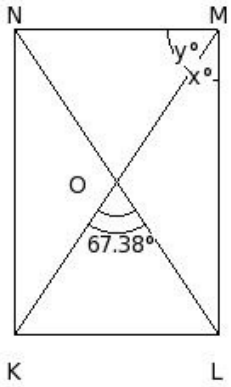
17. In the figure given below, NOPQ is a rectangle. Find the values of x and y



(i) $x = 55.01°, y = 110.02°$ (ii) $x = 53.01°, y = 108.02°$ (iii) $x = 56.01°, y = 111.02°$ (iv) $x = 54.01°, y = 109.02°$

(v) $x = 57.01°, y = 112.02°$

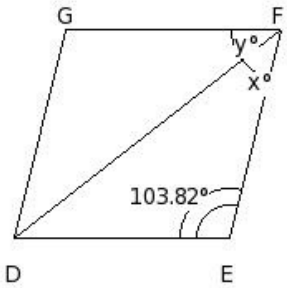
18. In the figure given below, KLMN is a rectangle. Find the values of x and y



(i) $x = 33.69°, y = 56.31°$ (ii) $x = 32.69°, y = 55.31°$ (iii) $x = 34.69°, y = 57.31°$ (iv) $x = 31.69°, y = 54.31°$

(v) $x = 35.69°, y = 58.31°$

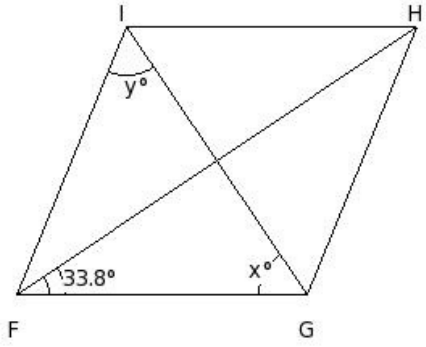
19. In the figure given below, DEFG is a rhombus. Find the values of x and y



(i) $x = 39.09°, y = 39.09°$ (ii) $x = 40.09°, y = 40.09°$ (iii) $x = 38.09°, y = 38.09°$ (iv) $x = 37.09°, y = 37.09°$

(v) $x = 36.09°, y = 36.09°$

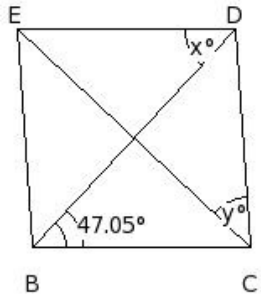
20. In the figure given below, FGHI is a rhombus. Find the values of x and y



(i) x=57.2°,y=57.2° (ii) x=58.2°,y=58.2° (iii) x=56.2°,y=56.2° (iv) x=54.2°,y=54.2°

(v) x=55.2°,y=55.2°

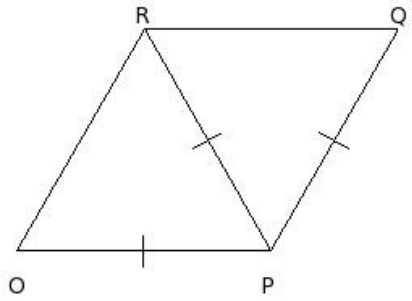
21. In the figure given below, BCDE is a rhombus. Find the values of x and y



(i) x=46.05°,y=41.95° (ii) x=49.05°,y=44.95° (iii) x=48.05°,y=43.95° (iv) x=45.05°,y=40.95°

(v) x=47.05°,y=42.95°

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

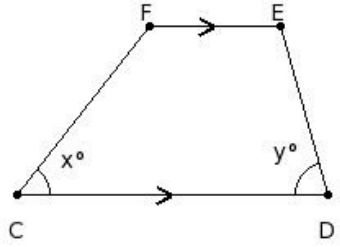


(i) O=58°,P=122°,Q=59°,R=121° (ii) O=60°,P=120°,Q=60°,R=120°

(iii) O=62°,P=119°,Q=58°,R=121° (iv) O=61°,P=119°,Q=62°,R=118°

(v) O=59°,P=118°,Q=61°,R=122°

23. In the adjoining figure, CDEF is a trapezium in which $\overline{CD} \parallel \overline{EF}$.
If x = 51.82° and y = 74.28°, find the measures of ∠E and ∠F.

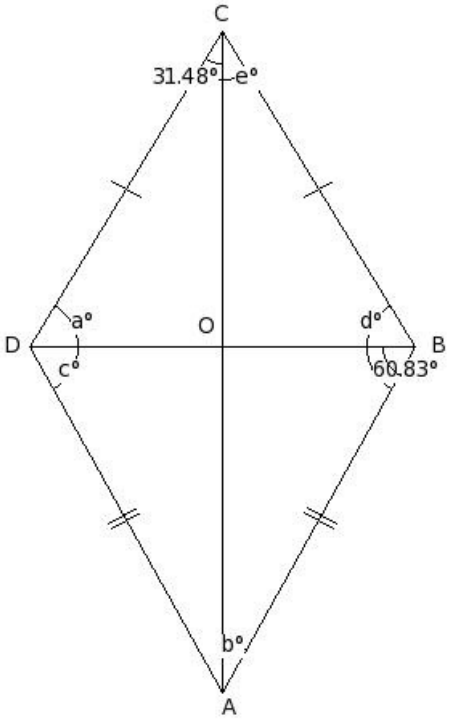


(i) E=103.72°,F=126.18° (ii) E=104.72°,F=127.18° (iii) E=105.72°,F=128.18°

(iv) E=107.72°,F=130.18° (v) E=106.72°,F=129.18°

24. 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 = 31.48° and ∠ABO = 60.83°, find the measure of each of the angles marked a,b,c,d and e.



(i) a = 58.52° , b = 30.17° , c = 59.83° , d = 58.52° , e = 31.48°

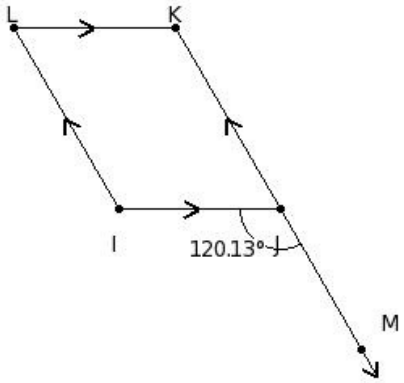
(ii) a = 58.52° , b = 30.17° , c = 60.83° , d = 58.52° , e = 31.48°

(iii) a = 58.52° , b = 30.17° , c = 59.83° , d = 60.52° , e = 31.48°

(iv) a = 58.52° , b = 29.17° , c = 60.83° , d = 58.52° , e = 31.48°

(v) a = 58.52° , b = 30.17° , c = 59.83° , d = 60.52° , e = 29.48°

25. In the adjoining figure, side JK of parallelogram IJKL has been produced to M. If ∠IJM = 120.13° , find the measure of each angle of the parallelogram.

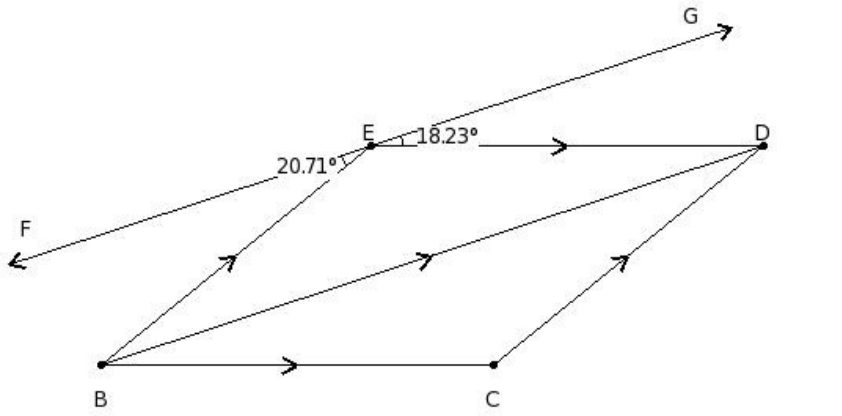


(i) I=118.13°,J=61.87°,K=119.13°,L=60.87° (ii) I=121.13°,J=58.87°,K=122.13°,L=57.87°

(iii) I=122.13°,J=58.87°,K=118.13°,L=60.87° (iv) I=120.13°,J=59.87°,K=120.13°,L=59.87°

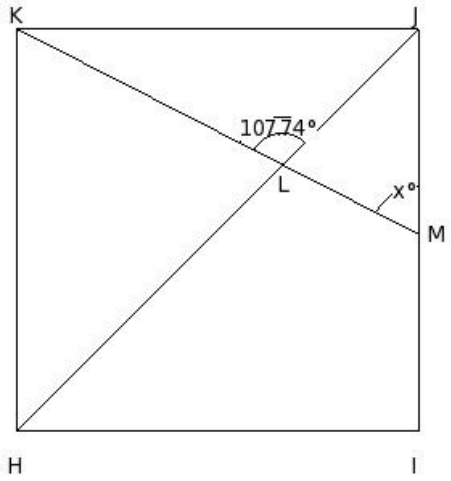
(v) I=119.13°,J=57.87°,K=121.13°,L=61.87°

26. In the adjoining figure, BCDE is a parallelogram and FG is such that $\overline{FG} \parallel \overline{BD}$
If $\angle BEF = 20.71°$ and $\angle DEG = 18.23°$, find the measure of $\angle DEB$.



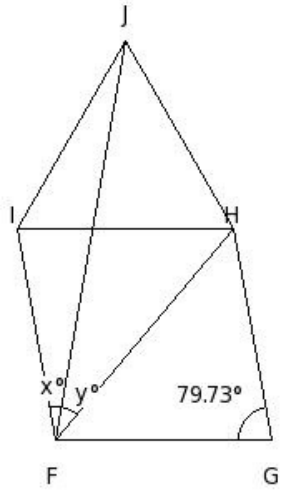
(i) 141.06° (ii) 143.06° (iii) 139.06° (iv) 140.06° (v) 142.06°

27. In the adjoining figure, HIJK is a square. A line segment KM cuts the side IJ at M and the diagonal HJ at L such that $\angle KLJ = 107.74°$ and $\angle LMJ = x°$. Find the value of x .



(i) 60.74° (ii) 62.74° (iii) 64.74° (iv) 63.74° (v) 61.74°

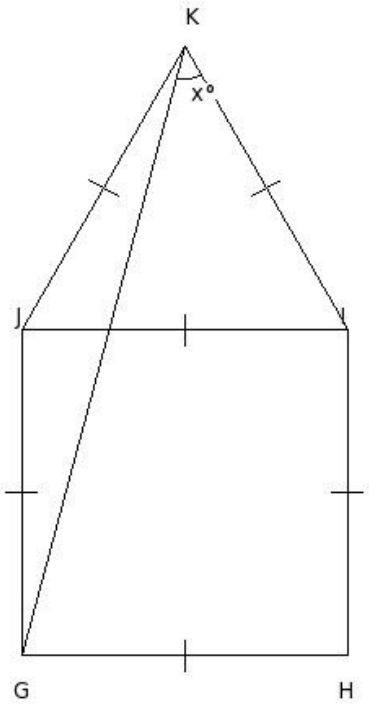
28. In the adjoining figure, FGHI is a rhombus and △JIH is an equilateral triangle. J and F are on opposite sides of HI. If $\angle FGH = 79.73°$, find the values of x and y .



(i) x=20.13°,y=30° (ii) x=18.13°,y=28° (iii) x=22.13°,y=32° (iv) x=19.13°,y=29°

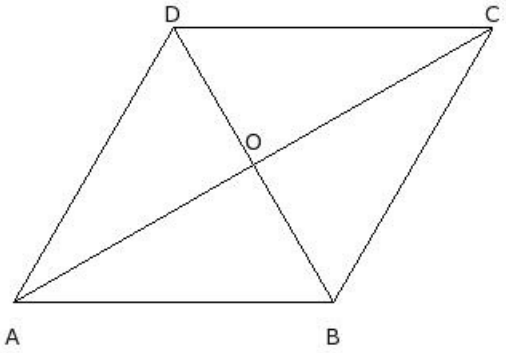
(v) x=21.13°,y=31°

29. In the adjoining figure, equilateral △JIK surmounts square GHIJ. If IKG = x°, find the value of x.



(i) 43° (ii) 45° (iii) 46° (iv) 47° (v) 44°

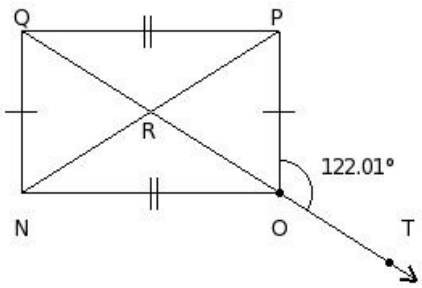
30. In the adjoining figure, ABCD is a rhombus whose diagonals intersect at O.
If ∠OAB : ∠ABO = 2 : 4, find the angles of △OAB.



(i) O = 90°, A = 28°, B = 62° (ii) O = 92°, A = 30°, B = 58° (iii) O = 88°, A = 32°, B = 60° (iv) O = 90°, A = 30°, B = 60°

(v) O = 88°, A = 30°, B = 62°

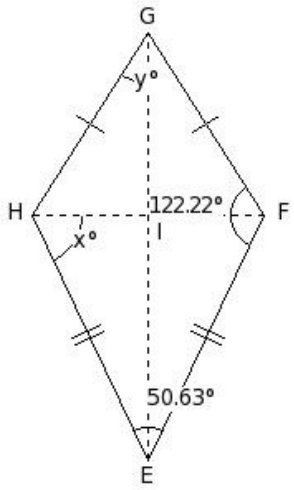
31. In the given figure, NOPQ is a rectangle whose diagonals intersect at R.
Diagonal OQ is produced to T and ∠POT = 122.01°. Find the angles of △RQN.



(i) R = 64.02°, Q = 55.99°, N = 59.99° (ii) R = 62.02°, Q = 57.99°, N = 59.99° (iii) R = 66.02°, Q = 57.99°, N = 55.99°

(iv) R = 62.02°, Q = 59.99°, N = 57.99° (v) R = 64.02°, Q = 57.99°, N = 57.99°

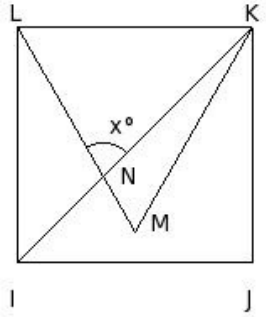
32. In the given figure, EFGH is a kite whose diagonals intersect at I.
If ∠HEF = 50.63° and ∠EFG = 122.22°, calculate ∠IHE and ∠IGH.



(i) x=63.69°,y=31.47° (ii) x=64.69°,y=32.47° (iii) x=66.69°,y=34.47° (iv) x=65.69°,y=33.47°

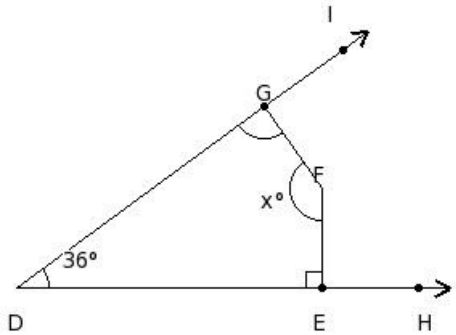
(v) x=62.69°,y=30.47°

33. △MKL is an equilateral triangle in a square IJKL.
If IK and LM intersect at N, then find the value of x.



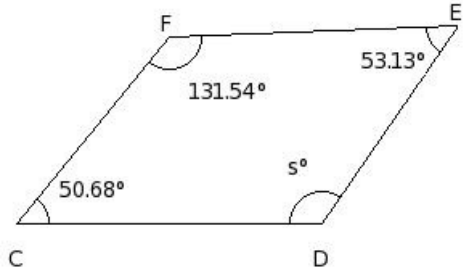
(i) 74° (ii) 76° (iii) 77° (iv) 75° (v) 73°

34. In the adjoining figure, F is a point in the interior of ∠HDI.
If FE⊥DH and FG⊥DI and ∠HDI = 36°, find the measure of x .



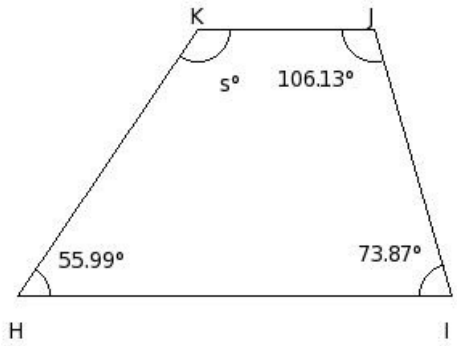
(i) 145° (ii) 146° (iii) 142° (iv) 144° (v) 143°

35. Find the missing angle in the given quadrilateral



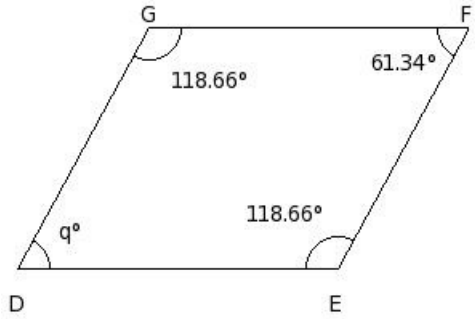
(i) 129.65° (ii) 139.65° (iii) 124.65° (iv) 134.65° (v) 154.65°

36. Find the missing angle in the given trapezium



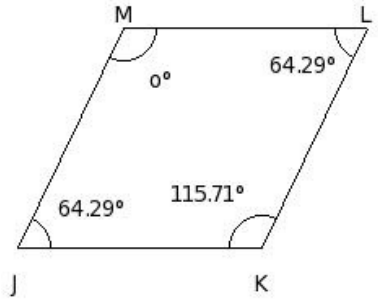
(i) 139.01° (ii) 124.01° (iii) 129.01° (iv) 154.01° (v) 134.01°

37. Find the missing angle in the given parallelogram



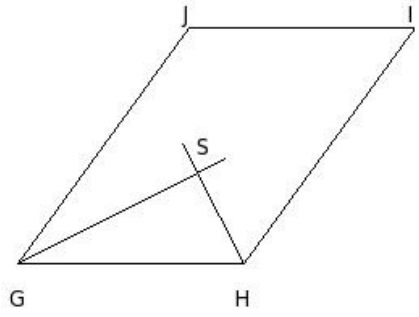
(i) 91.34° (ii) 76.34° (iii) 61.34° (iv) 66.34° (v) 71.34°

38. Find the missing angle in the given rhombus



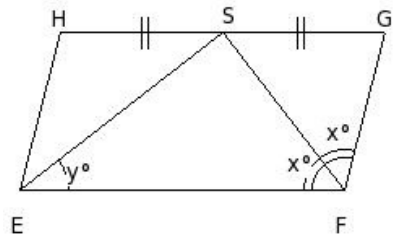
(i) 115.71° (ii) 125.71° (iii) 130.71° (iv) 145.71° (v) 120.71°

39. In the given figure, GHIJ is a parallelogram.
If GS and HS are bisector of ∠G & ∠H, find ∠S



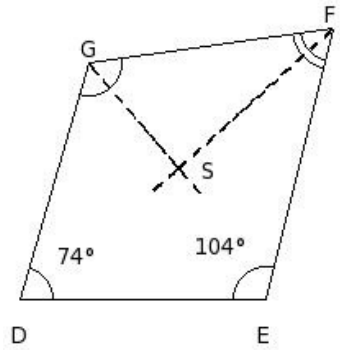
(i) 89° (ii) 88° (iii) 91° (iv) 90° (v) 92°

40. In the given figure, EFGH is a parallelogram. S is the mid-point of GH.
FS bisects ∠F. If x = 52°, find angle 'y'.



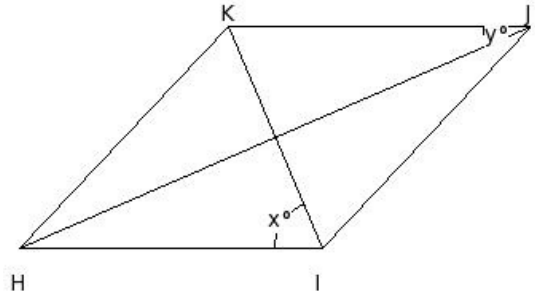
(i) 37° (ii) 36° (iii) 38° (iv) 39° (v) 40°

41. In the given figure, DEFG is a quadrilateral. SG and SF are bisectors of ∠G & ∠F meeting at S. Find ∠FSG



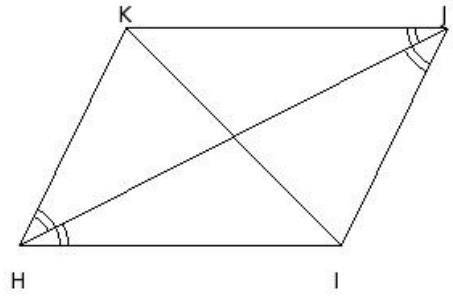
(i) 88.0° (ii) 90.0° (iii) 91.0° (iv) 89.0° (v) 87.0°

42. In the given figure, HIJK is a rhombus. Given x = 67°, find the value of 'y'.



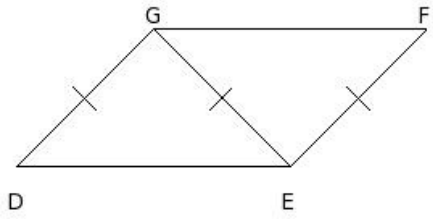
(i) 25° (ii) 22° (iii) 24° (iv) 21° (v) 23°

43. In the given figure, HIJK is a parallelogram. HJ bisects ∠H & ∠J.
Given HJ = 9 cm and IK = 6 cm, find HI



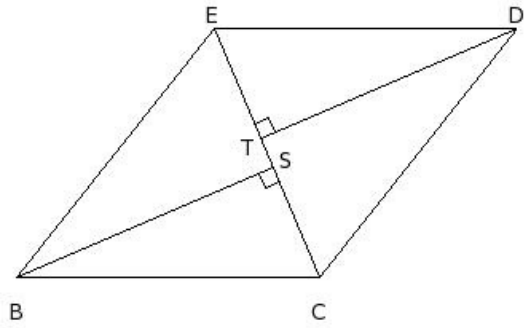
(i) 6.41 cm (ii) 7.41 cm (iii) 5.41 cm (iv) 3.41 cm (v) 4.41 cm

44. In the given figure, DEFG is a parallelogram. EG is the diagonal such that DG = EG = EF. Given ∠D = 45°, find ∠GEF



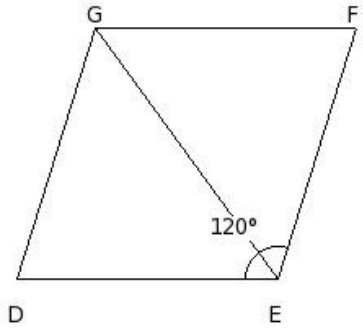
(i) 92° (ii) 91° (iii) 90° (iv) 88° (v) 89°

45. In the given figure, BCDE is a parallelogram. BS and DT are perpendicular to the diagonal CE. Given ∠TDE = 23°, find ∠ECB



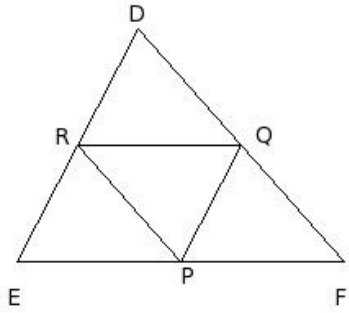
(i) 69° (ii) 66° (iii) 68° (iv) 67° (v) 65°

46. In the given figure, DEFG is a rhombus such that ∠E = 120°. Then △DEG is



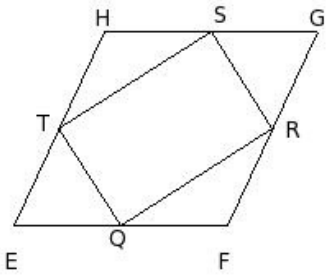
(i) Obtuse angled triangle (ii) Right angled triangle (iii) Isosceles triangle (iv) Equilateral triangle

47. P, Q, R are the mid-points of the sides of triangle DEF.
If the perimeter of the △DEF is 55 cm, the perimeter of △PQR is



(i) 28.5 cm (ii) 25.5 cm (iii) 27.5 cm (iv) 26.5 cm (v) 29.5 cm

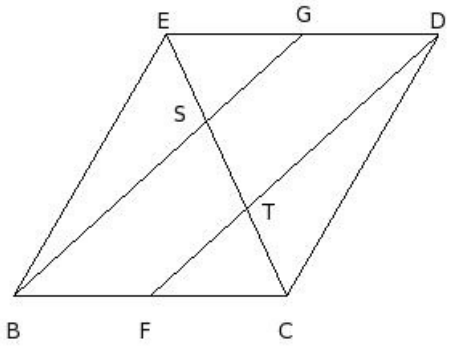
48. EFGH is a rhombus. Q, R, S and T are mid-points of sides EF, FG, GH and HE. Find ∠RST



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

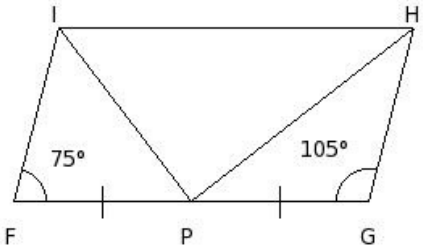
In the given figure, BCDE is a parallelogram

49. such that F and G are mid-points of sides BC & DE.
BG meets CE at S and DF meets CE at T. Given CE = 18 cm, find CT



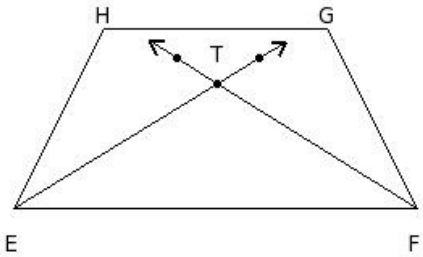
(i) 7.00 cm (ii) 6.00 cm (iii) 5.00 cm (iv) 8.00 cm (v) 4.00 cm

50. In the given figure, FGHI is a parallelogram such that P is the mid-point of FG and FG = 2IF. Find ∠IPH



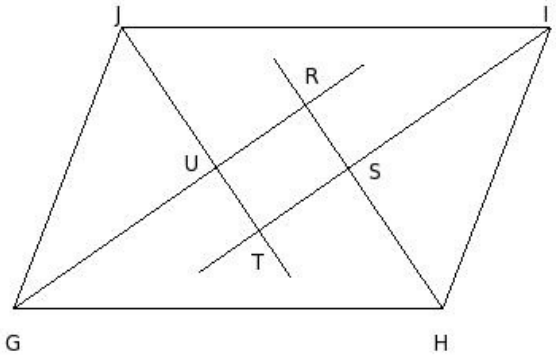
(i) 89° (ii) 92° (iii) 88° (iv) 91° (v) 90°

51. EFGH is an isosceles trapezium. ET and FT are angular bisector of ∠E & ∠F. If ∠E = 63°, find ∠ETF



(i) 116° (ii) 119° (iii) 117° (iv) 118° (v) 115°

52. In the given figure, GHIJ is a parallelogram. The bisector of the angles G, H, I & J intersect at R, S, T & U to form a quadrilateral. Find ∠URS



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

Assignment Key

1) (v)	2) (v)	3) (iii)	4) (i)	5) (i)	6) (v)
7) (iv)	8) (ii)	9) (iv)	10) (iv)	11) (i)	12) (iii)
13) (v)	14) (i)	15) (v)	16) (v)	17) (i)	18) (i)
19) (iii)	20) (iii)	21) (v)	22) (ii)	23) (iii)	24) (iv)
25) (iv)	26) (i)	27) (ii)	28) (i)	29) (ii)	30) (iv)
31) (v)	32) (ii)	33) (iv)	34) (iv)	35) (iii)	36) (ii)
37) (iii)	38) (i)	39) (iv)	40) (iii)	41) (iv)	42) (v)
43) (iii)	44) (iii)	45) (iv)	46) (iv)	47) (iii)	48) (i)
49) (ii)	50) (v)	51) (iii)	52) (v)		

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