EduSahara™ Assignment

Name : Quadrilateral Angle Properties

Chapter : Quadrilaterals

Grade : ICSE Grade VII

1. In parallelogram ABCD, if ∠B = 148.71°, then find the value of ∠A

   (i) 32.29° (ii) 30.29° (iii) 31.29° (iv) 29.29° (v) 33.29°

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

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

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

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

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

   (i) ∠B (ii) ∠D (iii) ∠C (iv) 90°

5. IJKL is a rhombus in which ∠I = 120° .
   $\overline{JL}$
   is the diagonal. Then △IJK is

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

   (v) an equilateral triangle

6. DEFG is a rhombus in which ∠D = 114° .
   $\overline{EG}$
   is the diagonal. Then △DEF is

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

   (v) an isosceles triangle

7. The angles of a quadrilateral DEFG are in the ratio 6 : 17 : 19 : 30. Find the measure of each angle of the quadrilateral.

   (i) D=30°,E=85°,F=95°,G=150° (ii) D=29°,E=83°,F=96°,G=152° (iii) D=28°,E=87°,F=94°,G=151°

   (iv) D=32°,E=84°,F=93°,G=151° (v) D=31°,E=84°,F=97°,G=148°

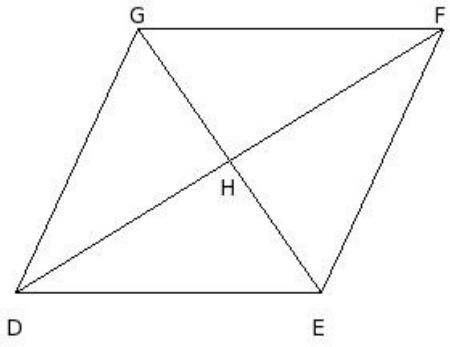
8. Two adjacent angles of a parallelogram MNOP are in the ratio 9 : 21. Find the measure of each of its angles.

   (i) M=55°,N=125°,O=56°,P=124° (ii) M=52°,N=128°,O=53°,P=127°

   (iii) M=54°,N=126°,O=54°,P=126° (iv) M=56°,N=125°,O=52°,P=127°

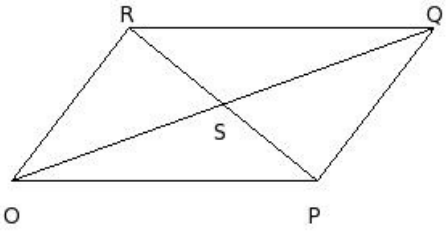
   (v) M=53°,N=124°,O=55°,P=128°

9. In the adjoining figure, DEFG is a parallelogram in which ∠GDF = 33.48°, ∠FDE = 31.65°, ∠GHF = 93.15°. Calculate ∠DEG



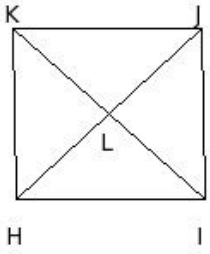
(i) 53.20° (ii) 55.20° (iii) 57.20° (iv) 56.20° (v) 54.20°

10. In the adjoining figure, OPQR is a parallelogram in which ∠ROQ = 32.72°, ∠QOP = 19.74°, ∠RSQ = 120.41°. Calculate ∠QRP



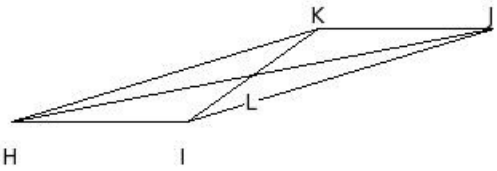
(i) 39.85° (ii) 38.85° (iii) 41.85° (iv) 37.85° (v) 40.85°

11. In the adjoining figure, HIJK is a parallelogram in which ∠KHJ = 48.35°, ∠JHI = 42.8°, ∠KLJ = 95.44°. Calculate ∠IJH



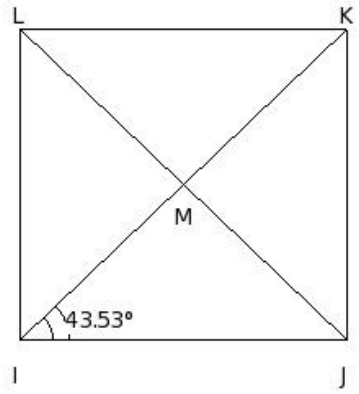
(i) 48.35° (ii) 50.35° (iii) 46.35° (iv) 47.35° (v) 49.35°

12. In the adjoining figure, HIJK is a parallelogram in which ∠KHJ = 5.94°, ∠JHI = 10.87°, ∠KLJ = 24.4°. Calculate ∠KIJ



(i) 17.46° (ii) 20.46° (iii) 19.46° (iv) 18.46° (v) 16.46°

13. In the adjoining figure, IJKL is a rectangle. If ∠KIJ = 43.53°, find ∠KMJ



(i) 85.06° (ii) 89.06° (iii) 86.06° (iv) 87.06° (v) 88.06°

14. Three angles of quadrilateral measure 98.22°, 74.98° and 112.64° respectively. Find the measure of the fourth angle

(i) 75.16° (ii) 76.16° (iii) 74.16° (iv) 73.16° (v) 72.16°

15. Three angles of a quadrilateral are equal and the fourth angle measure 135.91°. What is the measure of each of the equal angles?

(i) 76.70° (ii) 74.70° (iii) 72.70° (iv) 73.70° (v) 75.70°

16. Two angles of a quadrilateral are of measure 106.07° and 71.14° respectively and the other two angles are equal. Find the measure of each of the equal angles.

(i) 90.40° (ii) 91.40° (iii) 89.40° (iv) 93.40° (v) 92.40°

17. A quadrilateral has three acute angles, each measuring 39°. What is the measure of its fourth angle?

(i) 244.00° (ii) 242.00° (iii) 245.00° (iv) 241.00° (v) 243.00°

18. One angle of a parallelogram measures $D = 55.3°$.
Find the measure of each of its remaining angles.

(i) $E=125.7°, F=56.3°, G=125.7°$ (ii) $E=124.7°, F=55.3°, G=124.7°$ (iii) $E=126.7°, F=57.3°, G=126.7°$

(iv) $E=122.7°, F=53.3°, G=122.7°$ (v) $E=123.7°, F=54.3°, G=123.7°$

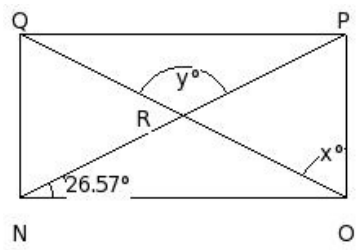
19. Two adjacent angles of a parallelogram are in the ratio $10 : 20$.
Find the measure of each of its angles.

(i) $A=58°, B=122°, C=59°, D=121°$ (ii) $A=60°, B=120°, C=60°, D=120°$

(iii) $A=61°, B=119°, C=62°, D=118°$ (iv) $A=59°, B=118°, C=61°, D=122°$

(v) $A=62°, B=119°, C=58°, D=121°$

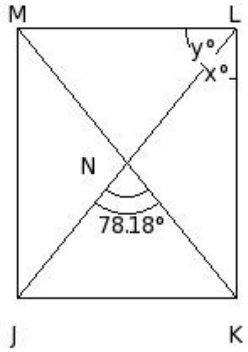
20. In the figure given below, NOPQ is a rectangle. Find the values of x and y



(i) $x=61.43°, y=124.86°$ (ii) $x=65.43°, y=128.86°$ (iii) $x=62.43°, y=125.86°$ (iv) $x=63.43°, y=126.86°$

(v) $x=64.43°, y=127.86°$

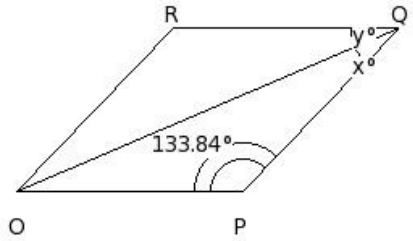
21. In the figure given below, JKLM is a rectangle. Find the values of x and y



(i) x=37.09°,y=48.91° (ii) x=40.09°,y=51.91° (iii) x=38.09°,y=49.91° (iv) x=41.09°,y=52.91°

(v) x=39.09°,y=50.91°

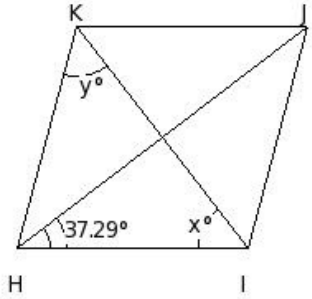
22. In the figure given below, OPQR is a rhombus. Find the values of x and y



(i) x=22.08°,y=22.08° (ii) x=24.08°,y=24.08° (iii) x=21.08°,y=21.08° (iv) x=25.08°,y=25.08°

(v) x=23.08°,y=23.08°

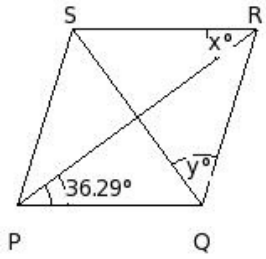
23. In the figure given below, HIJK is a rhombus. Find the values of x and y



(i) x=54.71°,y=54.71° (ii) x=50.71°,y=50.71° (iii) x=51.71°,y=51.71° (iv) x=52.71°,y=52.71°

(v) x=53.71°,y=53.71°

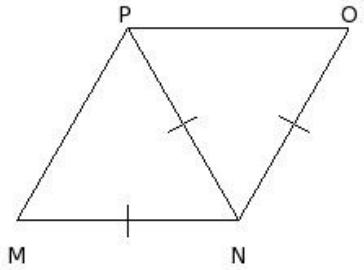
24. In the figure given below, PQRS is a rhombus. Find the values of x and y



(i) x=36.29°,y=53.71° (ii) x=37.29°,y=54.71° (iii) x=38.29°,y=55.71° (iv) x=34.29°,y=51.71°

(v) x=35.29°,y=52.71°

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

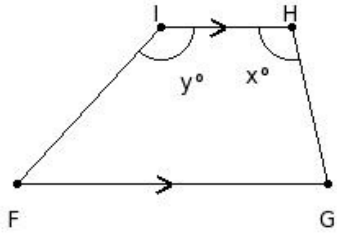


(i) $M=62°, N=119°, O=58°, P=121°$ (ii) $M=58°, N=122°, O=59°, P=121°$

(iii) $M=61°, N=119°, O=62°, P=118°$ (iv) $M=60°, N=120°, O=60°, P=120°$

(v) $M=59°, N=118°, O=61°, P=122°$

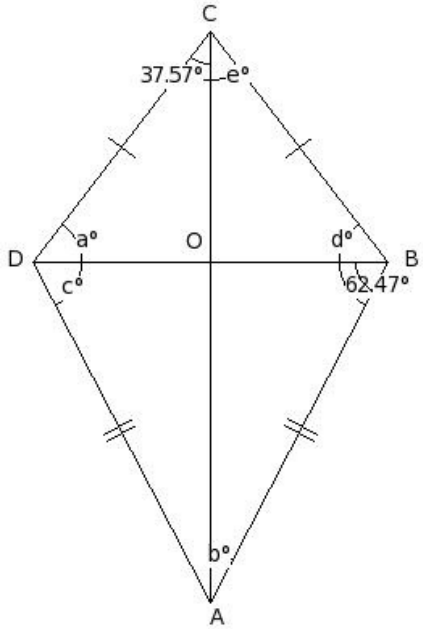
26. In the adjoining figure, FGHI is a trapezium in which $\overline{FG} \parallel \overline{HI}$.
If $x = 102.91°$ and $y = 132.51°$, find the measures of $\angle F$ and $\angle G$.



(i) $F=47.49°, G=77.09°$ (ii) $F=48.49°, G=78.09°$ (iii) $F=45.49°, G=75.09°$ (iv) $F=49.49°, G=79.09°$

(v) $F=46.49°, G=76.09°$

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 $\angle OCD = 37.57°$ and $\angle ABO = 62.47°$, find the measure of each of the angles marked a,b,c,d and e.



(i) $a = 52.43°$, $b = 28.53°$, $c = 62.47°$, $d = 52.43°$, $e = 37.57°$

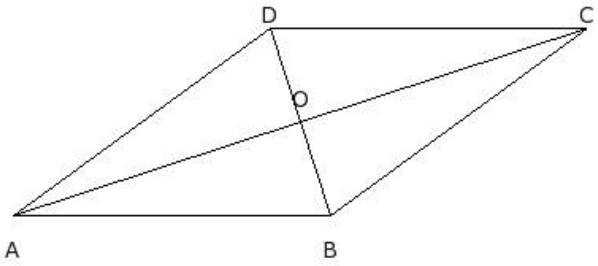
(ii) $a = 52.43°$, $b = 28.53°$, $c = 61.47°$, $d = 52.43°$, $e = 37.57°$

(iii) $a = 52.43°$, $b = 28.53°$, $c = 61.47°$, $d = 54.43°$, $e = 35.57°$

(iv) $a = 52.43°$, $b = 28.53°$, $c = 61.47°$, $d = 54.43°$, $e = 37.57°$

(v) $a = 52.43°$, $b = 27.53°$, $c = 62.47°$, $d = 52.43°$, $e = 37.57°$

28. In the adjoining figure, $ABCD$ is a rhombus whose diagonals intersect at O.
If $\angle OAB : \angle ABO = 2 : 8$, find the angles of $\triangle OAB$.



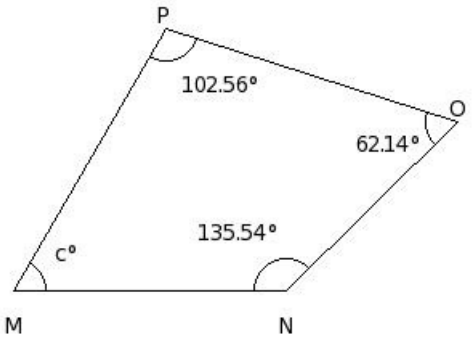
(i) $O=92°, A=18°, B=70°$ (ii) $O=90°, A=18°, B=72°$ (iii) $O=88°, A=18°, B=74°$ (iv) $O=88°, A=20°, B=72°$

(v) $O=90°, A=16°, B=74°$

29. The measures of three angles of a quadrilateral are $69.51°, 110.49°$ and $51.32°$. Find the fourth angle

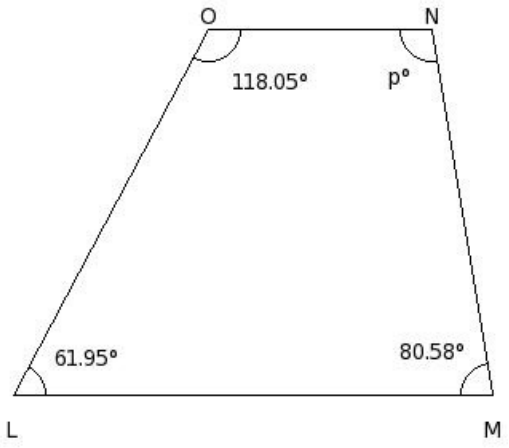
(i) $138.68°$ (ii) $128.68°$ (iii) $133.68°$ (iv) $143.68°$ (v) $158.68°$

30. Find the missing angle in the given quadrilateral



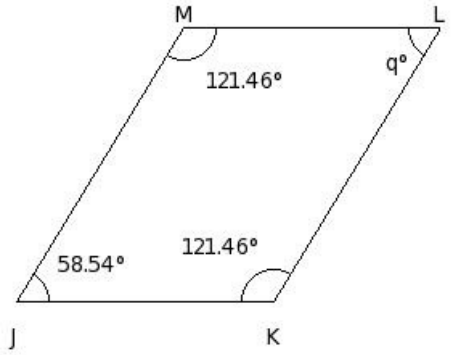
(i) $59.77°$ (ii) $69.77°$ (iii) $74.77°$ (iv) $64.77°$ (v) $89.77°$

31. Find the missing angle in the given trapezium



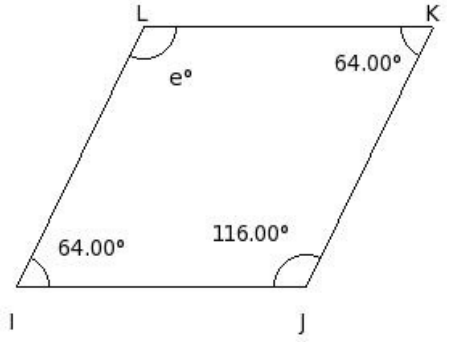
(i) $109.42°$ (ii) $129.42°$ (iii) $104.42°$ (iv) $99.42°$ (v) $114.42°$

32. Find the missing angle in the given parallelogram



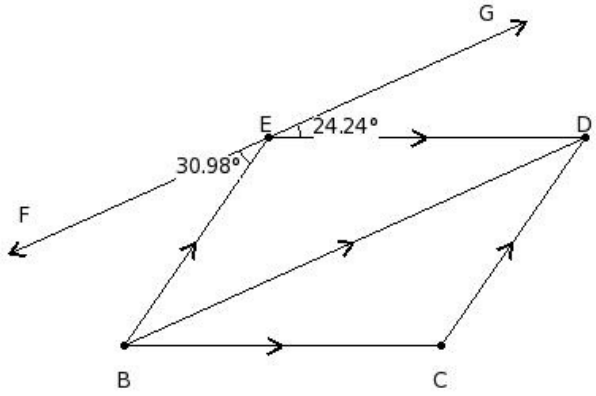
(i) 58.54° (ii) 88.54° (iii) 63.54° (iv) 68.54° (v) 73.54°

33. Find the missing angle in the given rhombus



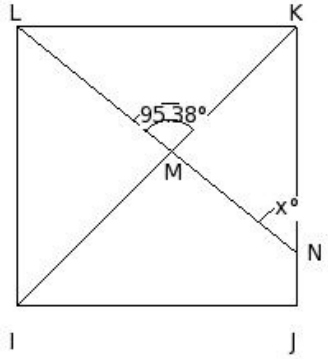
(i) 126° (ii) 116° (iii) 121° (iv) 131° (v) 146°

34. In the adjoining figure, BCDE is a parallelogram and FG is such that $\overline{FG} \parallel \overline{BD}$
If $\angle BEF = 30.98°$ and $\angle DEG = 24.24°$, find the measure of $\angle DEB$.



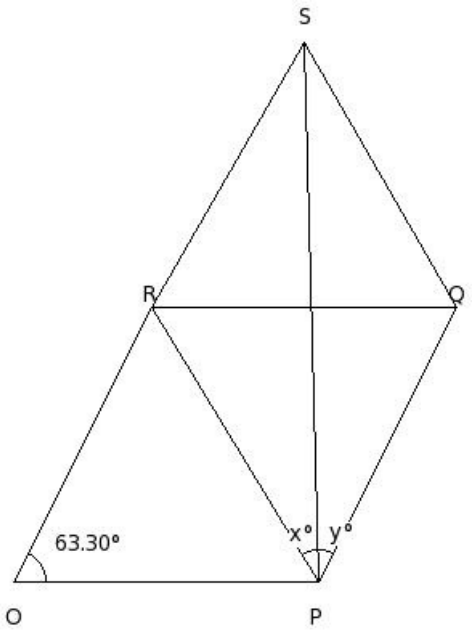
(i) 123.79° (ii) 124.79° (iii) 125.79° (iv) 126.79° (v) 122.79°

35. In the adjoining figure, IJKL is a square. A line segment LN cuts the side JK at N and the diagonal IK at M such that $\angle LMK = 95.38°$ and $\angle MNK = x°$. Find the value of x .



(i) 48.38° (ii) 49.38° (iii) 52.38° (iv) 50.38° (v) 51.38°

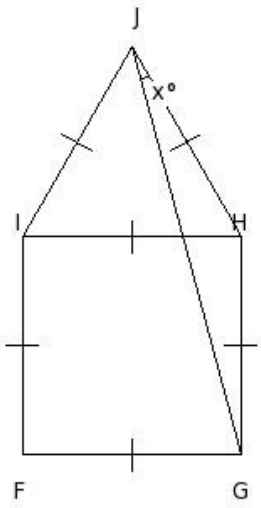
36. In the adjoining figure, OPQR is a rhombus and △SRQ is an equilateral triangle. S and P are on opposite sides of QR. If ∠ROP = 63.3°, find the values of x and y .



(i) x=30°,y=28.35° (ii) x=28°,y=26.35° (iii) x=31°,y=29.35° (iv) x=32°,y=30.35°

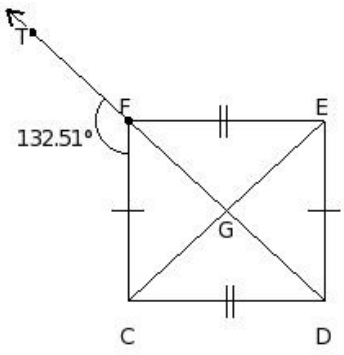
(v) x=29°,y=27.35°

37. In the adjoining figure, equilateral △IHJ surmounts square FGHI. If HJG = x°, find the value of x.



(i) 16° (ii) 15° (iii) 17° (iv) 13° (v) 14°

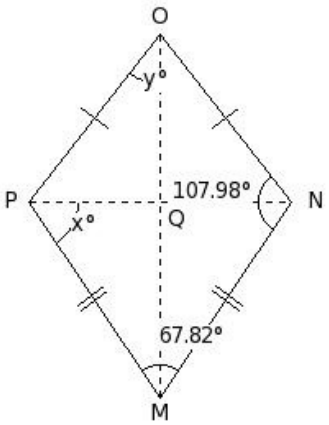
38. In the given figure, CDEF is a rectangle whose diagonals intersect at G.
Diagonal DF is produced to T and ∠CFT = 132.51°. Find the angles of △GEF.



(i) G=92.98°,E=42.51°,F=44.51° (ii) G=92.98°,E=44.51°,F=42.51° (iii) G=96.98°,E=42.51°,F=40.51°

(iv) G=94.98°,E=42.51°,F=42.51° (v) G=94.98°,E=40.51°,F=44.51°

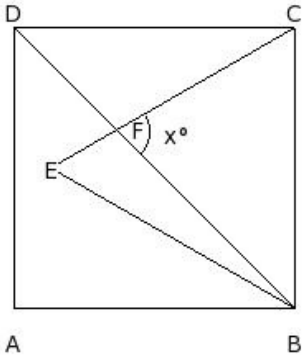
39. In the given figure, $MNOP$ is a kite whose diagonals intersect at Q.
If $\angle PMN = 67.82°$ and $\angle MNO = 107.98°$, calculate $\angle QPM$ and $\angle QOP$.



(i) $x=56.09°, y=38.11°$ (ii) $x=57.09°, y=39.11°$ (iii) $x=58.09°, y=40.11°$ (iv) $x=54.09°, y=36.11°$

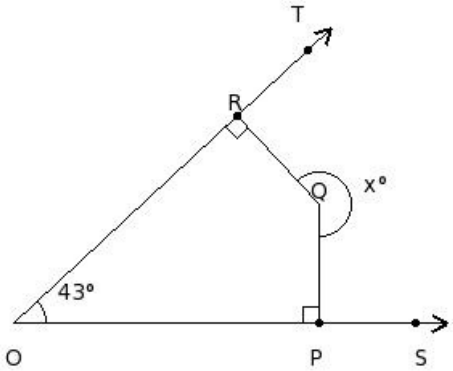
(v) $x=55.09°, y=37.11°$

40. $\triangle EBC$ is an equilateral triangle in a square $ABCD$.
If BD and CE intersect at F, then find the value of x.



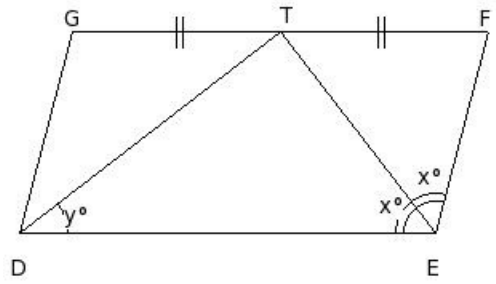
(i) 76° (ii) 75° (iii) 74° (iv) 73° (v) 77°

41. In the adjoining figure, Q is a point in the interior of $\angle SOT$.
If $QP \perp OS$ and $QR \perp OT$ and $\angle SOT = 43°$, find the measure of x .



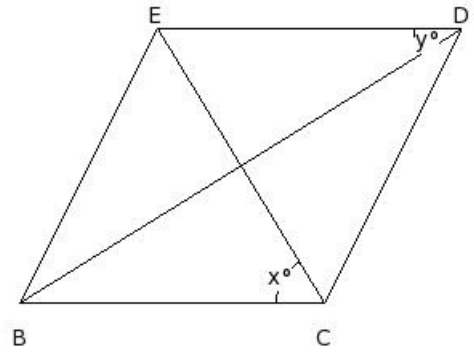
(i) 222° (ii) 223° (iii) 225° (iv) 221° (v) 224°

42. In the given figure, DEFG is a parallelogram. T is the mid-point of FG.
ET bisects $\angle E$. If $x = 52°$, find angle 'y'.



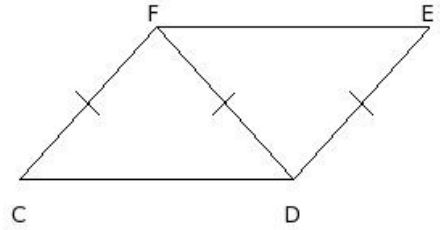
(i) 37° (ii) 39° (iii) 40° (iv) 36° (v) 38°

43. In the given figure, BCDE is a rhombus. Given x = 59°, find the value of 'y'.



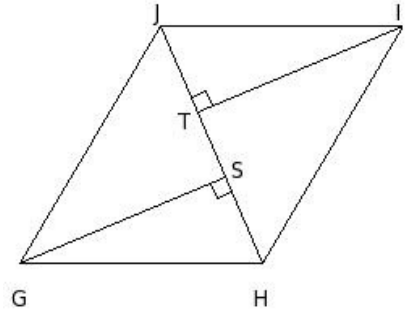
(i) 33° (ii) 29° (iii) 31° (iv) 32° (v) 30°

44. In the given figure, CDEF is a parallelogram. DF is the diagonal
such that CF = DF = DE. Given $\angle C = 48°$, find $\angle FDE$



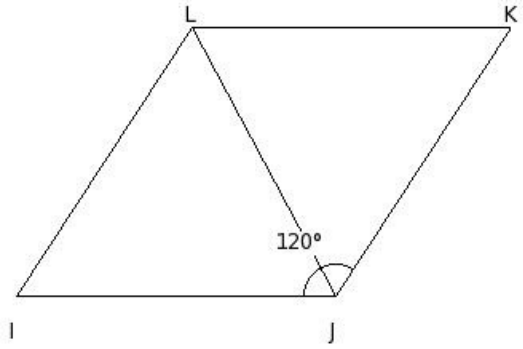
(i) 85° (ii) 82° (iii) 86° (iv) 84° (v) 83°

45. In the given figure, GHIJ is a parallelogram. GS and IT are perpendicular to the diagonal HJ. Given $\angle SGH = 23°$, find $\angle IJH$



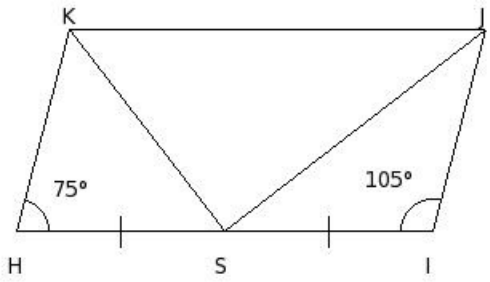
(i) 68° (ii) 65° (iii) 67° (iv) 69° (v) 66°

46. In the given figure, IJKL is a rhombus such that ∠J = 120°. Then △IJL is



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

47. In the given figure, HIJK is a parallelogram such that S is the mid-point of HI and HI = 2KH. Find ∠KSJ



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

Assignment Key

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