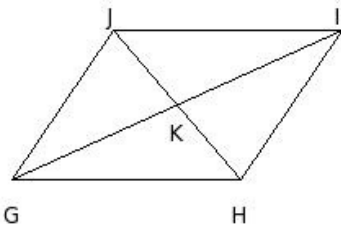




1. The angles of a quadrilateral EFGH are in the ratio 5 : 4 : 3 : 8. Find the measure of each angle of the quadrilateral.
- (i) $E=90^\circ, F=72^\circ, G=54^\circ, H=144^\circ$ (ii) $E=89^\circ, F=70^\circ, G=55^\circ, H=146^\circ$ (iii) $E=91^\circ, F=71^\circ, G=56^\circ, H=142^\circ$
- (iv) $E=88^\circ, F=74^\circ, G=53^\circ, H=145^\circ$ (v) $E=92^\circ, F=71^\circ, G=52^\circ, H=145^\circ$

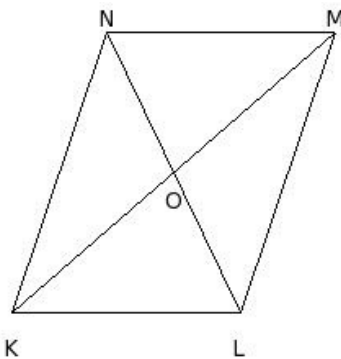
2. Two adjacent angles of a parallelogram KLMN are in the ratio 6 : 14. Find the measure of each of its angles.
- (i) $K=54^\circ, L=126^\circ, M=54^\circ, N=126^\circ$ (ii) $K=53^\circ, L=124^\circ, M=55^\circ, N=128^\circ$ (iii) $K=52^\circ, L=128^\circ, M=53^\circ, N=127^\circ$
- (iv) $K=55^\circ, L=125^\circ, M=56^\circ, N=124^\circ$ (v) $K=56^\circ, L=125^\circ, M=52^\circ, N=127^\circ$

3. In the adjoining figure, GHIJ is a parallelogram in which $\angle JGI = 31.72^\circ, \angle IGH = 24.01^\circ, \angle JKI = 105.81^\circ$. Calculate $\angle GHJ$



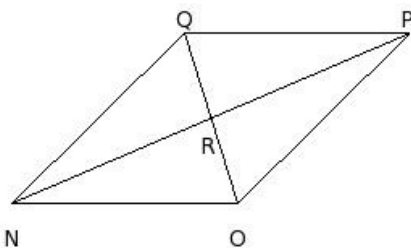
- (i) 52.18° (ii) 48.18° (iii) 49.18° (iv) 51.18° (v) 50.18°

4. In the adjoining figure, KLMN is a parallelogram in which $\angle NKM = 30.61^\circ, \angle MKL = 40.65^\circ, \angle NOM = 74.51^\circ$. Calculate $\angle MNL$



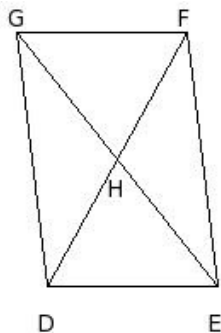
- (i) 62.84° (ii) 63.84° (iii) 65.84° (iv) 64.84° (v) 66.84°

5. In the adjoining figure, NOPQ is a parallelogram in which $\angle QNP = 21.54^\circ, \angle PNO = 22.92^\circ, \angle QRP = 83.66^\circ$. Calculate $\angle OPN$



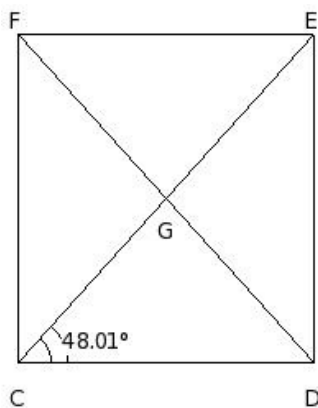
- (i) 21.54° (ii) 19.54° (iii) 22.54° (iv) 20.54° (v) 23.54°

6. In the adjoining figure, DEFG is a parallelogram in which $\angle GDF = 35.88^\circ$, $\angle FDE = 61.01^\circ$, $\angle GHF = 66.85^\circ$. Calculate $\angle GEF$



- (i) 31.97° (ii) 30.97° (iii) 32.97° (iv) 28.97° (v) 29.97°

7. In the adjoining figure, CDEF is a rectangle. If $\angle ECD = 48.01^\circ$, find $\angle DEC$



- (i) 40.99° (ii) 43.99° (iii) 39.99° (iv) 41.99° (v) 42.99°

8. Three angles of quadrilateral measure 60° , 76.66° and 98.72° respectively. Find the measure of the fourth angle

- (i) 122.62° (ii) 123.62° (iii) 124.62° (iv) 125.62° (v) 126.62°

9. Three angles of a quadrilateral are equal and the fourth angle measure 66.87° . What is the measure of each of the equal angles?

- (i) 97.71° (ii) 96.71° (iii) 98.71° (iv) 95.71° (v) 99.71°

10. Two angles of a quadrilateral are of measure 65.28° and 117.64° respectively and the other two angles are equal. Find the measure of each of the equal angles.

- (i) 86.54° (ii) 87.54° (iii) 89.54° (iv) 88.54° (v) 90.54°

11. A quadrilateral has three acute angles, each measuring 45° . What is the measure of its fourth angle?

- (i) 224.00° (ii) 223.00° (iii) 227.00° (iv) 225.00° (v) 226.00°

12. One angle of a parallelogram measures $O = 74.85^\circ$.

Find the measure of each of its remaining angles.

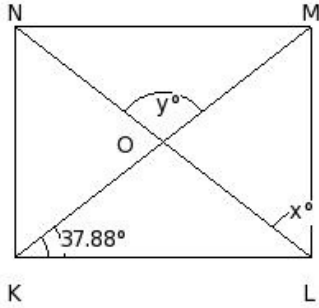
- (i) $P=105.15^\circ, Q=74.85^\circ, R=105.15^\circ$ (ii) $P=104.15^\circ, Q=73.85^\circ, R=104.15^\circ$
 (iii) $P=106.15^\circ, Q=75.85^\circ, R=106.15^\circ$ (iv) $P=103.15^\circ, Q=72.85^\circ, R=103.15^\circ$
 (v) $P=107.15^\circ, Q=76.85^\circ, R=107.15^\circ$

13. Two adjacent angles of a parallelogram are in the ratio 12 : 24.

Find the measure of each of its angles.

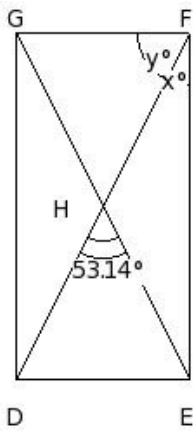
- (i) $A=58^\circ, B=122^\circ, C=59^\circ, D=121^\circ$ (ii) $A=62^\circ, B=119^\circ, C=58^\circ, D=121^\circ$
 (iii) $A=59^\circ, B=118^\circ, C=61^\circ, D=122^\circ$ (iv) $A=60^\circ, B=120^\circ, C=60^\circ, D=120^\circ$
 (v) $A=61^\circ, B=119^\circ, C=62^\circ, D=118^\circ$

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



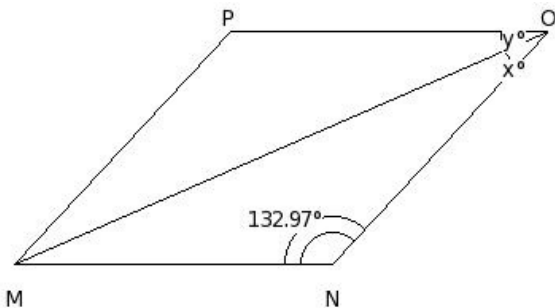
- (i) $x=51.12^\circ, y=103.24^\circ$ (ii) $x=53.12^\circ, y=105.24^\circ$ (iii) $x=50.12^\circ, y=102.24^\circ$ (iv) $x=54.12^\circ, y=106.24^\circ$
 (v) $x=52.12^\circ, y=104.24^\circ$

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



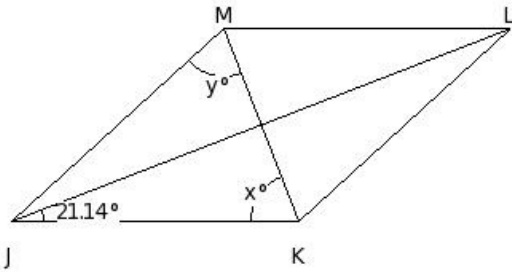
- (i) $x=27.57^\circ, y=64.43^\circ$ (ii) $x=26.57^\circ, y=63.43^\circ$ (iii) $x=25.57^\circ, y=62.43^\circ$ (iv) $x=24.57^\circ, y=61.43^\circ$
 (v) $x=28.57^\circ, y=65.43^\circ$

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



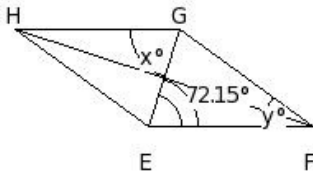
- (i) $x=22.52^\circ, y=22.52^\circ$ (ii) $x=21.52^\circ, y=21.52^\circ$ (iii) $x=25.52^\circ, y=25.52^\circ$ (iv) $x=24.52^\circ, y=24.52^\circ$
 (v) $x=23.52^\circ, y=23.52^\circ$

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



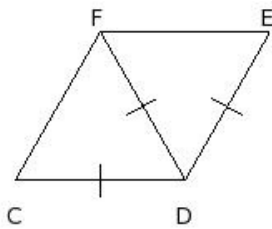
- (i) $x=68.86^\circ, y=68.86^\circ$ (ii) $x=70.86^\circ, y=70.86^\circ$ (iii) $x=69.86^\circ, y=69.86^\circ$ (iv) $x=67.86^\circ, y=67.86^\circ$
 (v) $x=66.86^\circ, y=66.86^\circ$

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



- (i) $x=71.15^\circ, y=16.85^\circ$ (ii) $x=73.15^\circ, y=18.85^\circ$ (iii) $x=70.15^\circ, y=15.85^\circ$ (iv) $x=74.15^\circ, y=19.85^\circ$
 (v) $x=72.15^\circ, y=17.85^\circ$

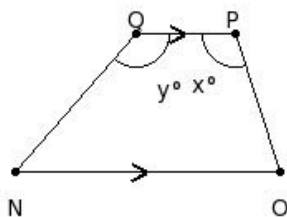
19. One of the diagonals of a rhombus is equal to one of its sides. Find the angles of the rhombus



- (i) $C=62^\circ, D=119^\circ, E=58^\circ, F=121^\circ$ (ii) $C=59^\circ, D=118^\circ, E=61^\circ, F=122^\circ$
 (iii) $C=58^\circ, D=122^\circ, E=59^\circ, F=121^\circ$ (iv) $C=60^\circ, D=120^\circ, E=60^\circ, F=120^\circ$
 (v) $C=61^\circ, D=119^\circ, E=62^\circ, F=118^\circ$

20. In the adjoining figure, NOPQ is a trapezium in which $\overline{NO} \parallel \overline{PQ}$.

If $x = 108.02^\circ$ and $y = 131.33^\circ$, find the measures of $\angle N$ and $\angle O$.

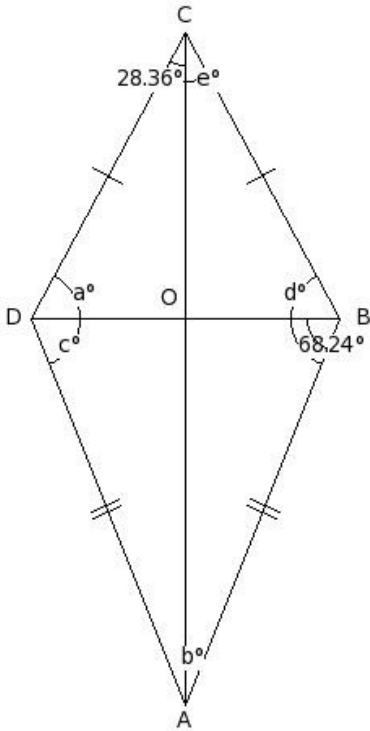


- (i) $N=47.67^\circ, O=70.98^\circ$ (ii) $N=49.67^\circ, O=72.98^\circ$ (iii) $N=50.67^\circ, O=73.98^\circ$ (iv) $N=46.67^\circ, O=69.98^\circ$
 (v) $N=48.67^\circ, O=71.98^\circ$

In the adjoining figure, ABCD is a kite in which $AB = DA$, $BC = CD$

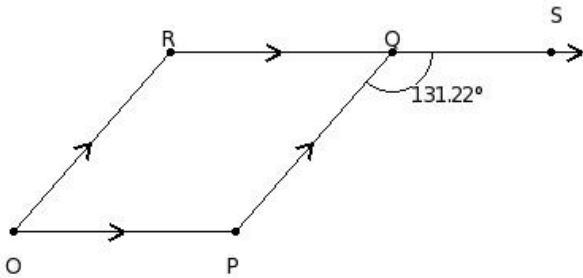
21. and the diagonals \overline{BD} and \overline{AC} intersect at O.

If $\angle OCD = 28.36^\circ$ and $\angle ABO = 68.24^\circ$, find the measure of each of the angles marked a, b, c, d and e.



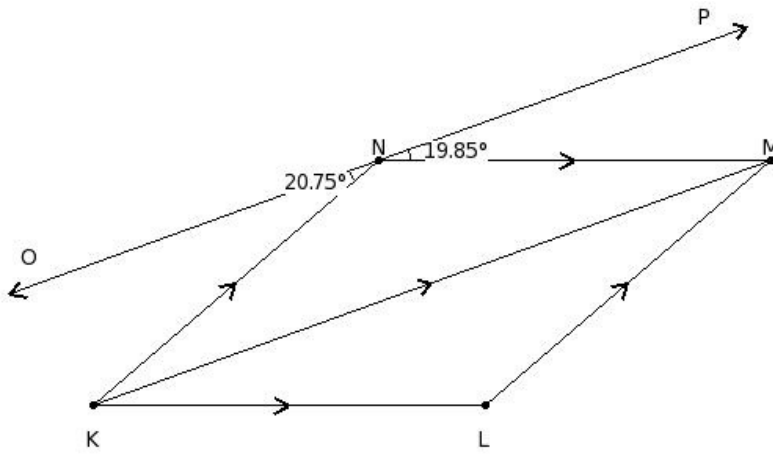
- (i) $a = 61.64^\circ$, $b = 22.76^\circ$, $c = 67.24^\circ$, $d = 61.64^\circ$, $e = 28.36^\circ$
- (ii) $a = 61.64^\circ$, $b = 22.76^\circ$, $c = 67.24^\circ$, $d = 63.64^\circ$, $e = 26.36^\circ$
- (iii) $a = 61.64^\circ$, $b = 21.76^\circ$, $c = 68.24^\circ$, $d = 61.64^\circ$, $e = 28.36^\circ$
- (iv) $a = 61.64^\circ$, $b = 22.76^\circ$, $c = 68.24^\circ$, $d = 61.64^\circ$, $e = 28.36^\circ$
- (v) $a = 61.64^\circ$, $b = 22.76^\circ$, $c = 67.24^\circ$, $d = 63.64^\circ$, $e = 28.36^\circ$

22. In the adjoining figure, side QR of parallelogram OPQR has been produced to S. If $\angle PQS = 131.22^\circ$, find the measure of each angle of the parallelogram.



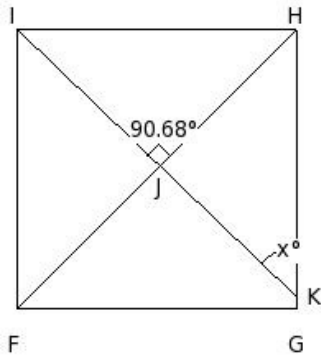
- (i) $O = 49.78^\circ$, $P = 130.22^\circ$, $Q = 50.78^\circ$, $R = 129.22^\circ$
- (ii) $O = 46.78^\circ$, $P = 133.22^\circ$, $Q = 47.78^\circ$, $R = 132.22^\circ$
- (iii) $O = 48.78^\circ$, $P = 131.22^\circ$, $Q = 48.78^\circ$, $R = 131.22^\circ$
- (iv) $O = 50.78^\circ$, $P = 130.22^\circ$, $Q = 46.78^\circ$, $R = 132.22^\circ$
- (v) $O = 47.78^\circ$, $P = 129.22^\circ$, $Q = 49.78^\circ$, $R = 133.22^\circ$

23. In the adjoining figure, KLMN is a parallelogram and OP is such that $\overline{OP} \parallel \overline{KM}$. If $\angle KNO = 20.75^\circ$ and $\angle MNP = 19.85^\circ$, find the measure of $\angle KLM$.



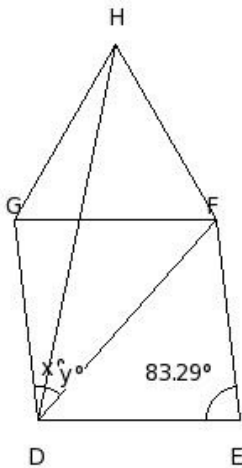
- (i) 139.40° (ii) 141.40° (iii) 137.40° (iv) 138.40° (v) 140.40°

24. In the adjoining figure, FGHI is a square. A line segment IK cuts the side GH at K and the diagonal FH at J such that $\angle IJH = 90.68^\circ$ and $\angle JKH = x^\circ$. Find the value of x .



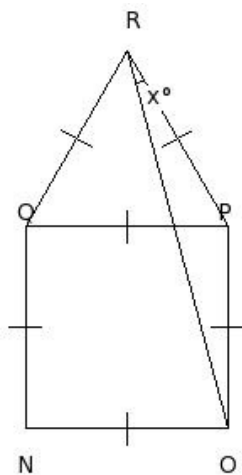
- (i) 43.68° (ii) 47.68° (iii) 44.68° (iv) 46.68° (v) 45.68°

25. In the adjoining figure, DEFG is a rhombus and $\triangle HGF$ is an equilateral triangle. H and D are on opposite sides of FG. If $\angle DEF = 83.29^\circ$, find the values of x and y .



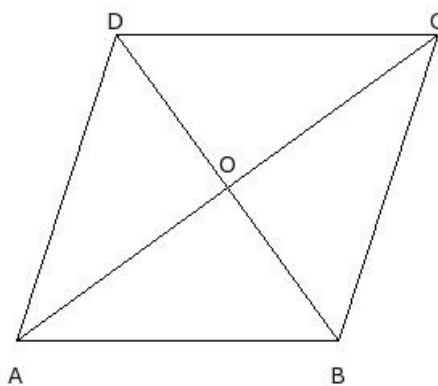
- (i) $x=18.35^\circ, y=30^\circ$ (ii) $x=19.35^\circ, y=31^\circ$ (iii) $x=20.35^\circ, y=32^\circ$ (iv) $x=17.35^\circ, y=29^\circ$
 (v) $x=16.35^\circ, y=28^\circ$

26. In the adjoining figure, equilateral $\triangle QPR$ surmounts square $NOPQ$. If $\angle PRO = x^\circ$, find the value of x .



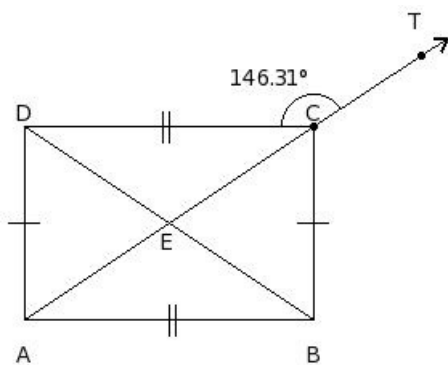
- (i) 13° (ii) 17° (iii) 14° (iv) 15° (v) 16°

27. In the adjoining figure, $ABCD$ is a rhombus whose diagonals intersect at O . If $\angle OAB : \angle ABO = 2 : 3$, find the angles of $\triangle OAB$.



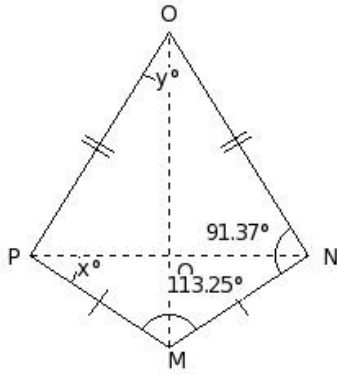
- (i) $O = 88^\circ, A = 36^\circ, B = 56^\circ$ (ii) $O = 92^\circ, A = 36^\circ, B = 52^\circ$ (iii) $O = 90^\circ, A = 36^\circ, B = 54^\circ$ (iv) $O = 90^\circ, A = 34^\circ, B = 56^\circ$
 (v) $O = 88^\circ, A = 38^\circ, B = 54^\circ$

28. In the given figure, $ABCD$ is a rectangle whose diagonals intersect at E . Diagonal AC is produced to T and $\angle DCT = 146.31^\circ$. Find the angles of $\triangle EDA$.



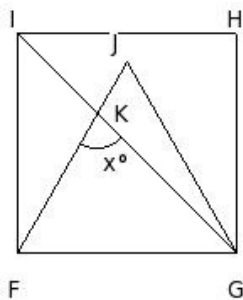
- (i) $E = 67.38^\circ, D = 56.31^\circ, A = 56.31^\circ$ (ii) $E = 67.38^\circ, D = 54.31^\circ, A = 58.31^\circ$ (iii) $E = 65.38^\circ, D = 56.31^\circ, A = 58.31^\circ$
 (iv) $E = 69.38^\circ, D = 56.31^\circ, A = 54.31^\circ$ (v) $E = 65.38^\circ, D = 58.31^\circ, A = 56.31^\circ$

29. In the given figure, MNOP is a kite whose diagonals intersect at Q.
If $\angle PMN = 113.25^\circ$ and $\angle MNO = 91.37^\circ$, calculate $\angle QPM$ and $\angle QOP$.



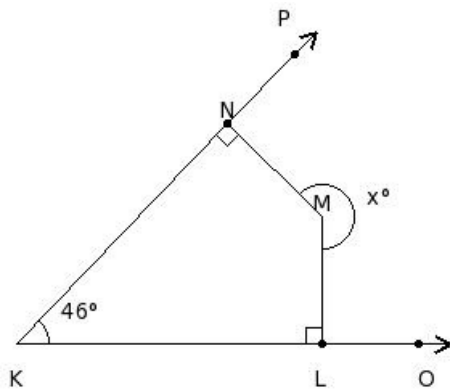
- (i) $x=32.38^\circ, y=31^\circ$ (ii) $x=34.38^\circ, y=33^\circ$ (iii) $x=31.38^\circ, y=30^\circ$ (iv) $x=35.38^\circ, y=34^\circ$
(v) $x=33.38^\circ, y=32^\circ$

30. $\triangle JFG$ is an equilateral triangle in a square $FGHI$.
If GI and JF intersect at K , then find the value of x .



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

31. In the adjoining figure, M is a point in the interior of $\angle OKP$.
If $ML \perp KO$ and $MN \perp KP$ and $\angle OKP = 46^\circ$, find the measure of x .



- (i) 225° (ii) 227° (iii) 224° (iv) 226° (v) 228°

32. The measures of three angles of a quadrilateral are 51.32° , 133.61° and 50.13° . Find the fourth angle

- (i) 134.94° (ii) 129.94° (iii) 139.94° (iv) 154.94° (v) 124.94°

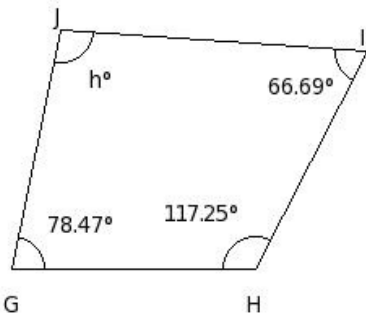
33. Sum of the interior angles in a quadrilateral is

- (i) 390° (ii) 370° (iii) 365° (iv) 375° (v) 360°

34. How many diagonals does a quadrilateral have?

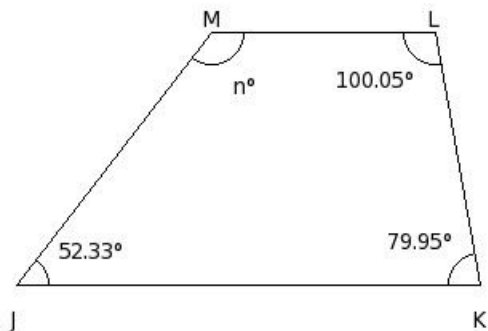
- (i) 2 (ii) 4 (iii) 3 (iv) 1 (v) 0

35. Find the missing angle in the given quadrilateral



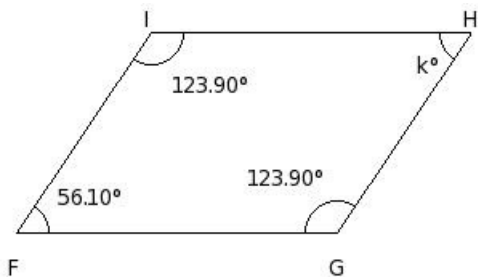
- (i) 97.6° (ii) 107.6° (iii) 102.6° (iv) 112.6° (v) 127.6°

36. Find the missing angle in the given trapezium



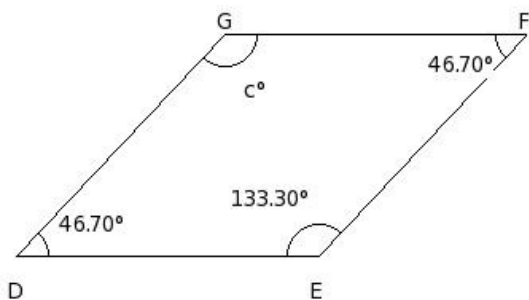
- (i) 132.67° (ii) 157.67° (iii) 127.67° (iv) 142.67° (v) 137.67°

37. Find the missing angle in the given parallelogram



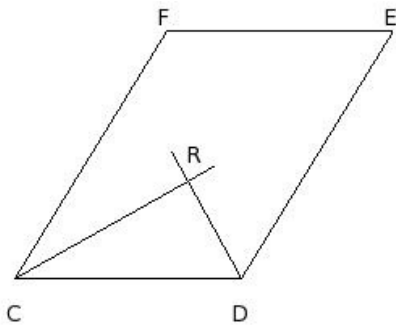
- (i) 56.1° (ii) 86.1° (iii) 71.1° (iv) 66.1° (v) 61.1°

38. Find the missing angle in the given rhombus



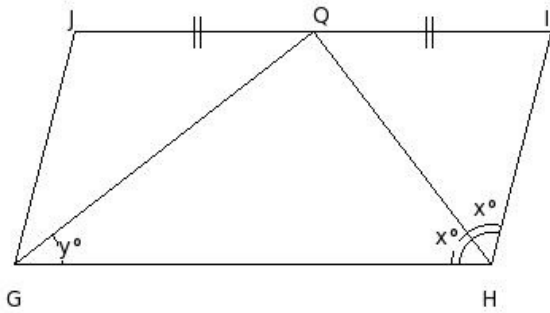
- (i) 138.3° (ii) 163.3° (iii) 148.3° (iv) 143.3° (v) 133.3°

39. In the given figure, CDEF is a parallelogram. If CR and DR are bisectors of $\angle C$ & $\angle D$, find $\angle R$



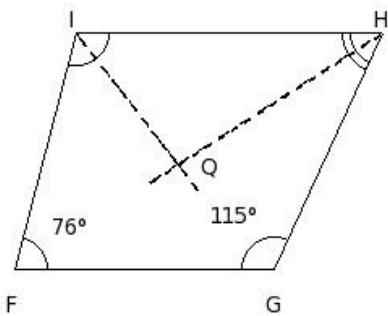
- (i) 92° (ii) 90° (iii) 91° (iv) 88° (v) 89°

40. In the given figure, GHIJ is a parallelogram. Q is the mid-point of IJ. HQ bisects $\angle H$. If $x = 53^\circ$, find angle 'y'.



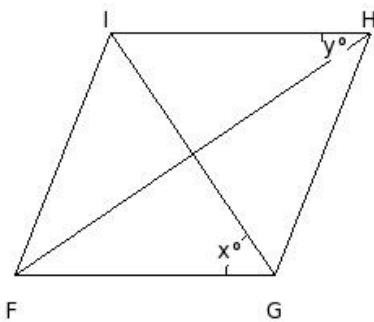
- (i) 38° (ii) 39° (iii) 35° (iv) 36° (v) 37°

41. In the given figure, FGHI is a quadrilateral. QI and QH are bisectors of $\angle I$ & $\angle H$ meeting at Q. Find $\angle HQI$



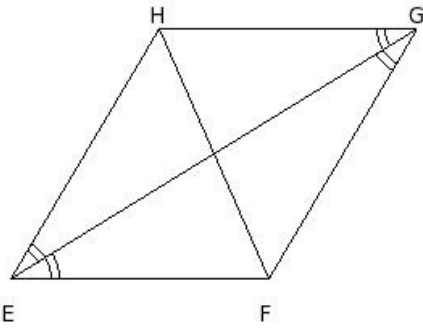
- (i) 93.5° (ii) 95.5° (iii) 97.5° (iv) 96.5° (v) 94.5°

42. In the given figure, FGHI is a rhombus. Given $x = 56^\circ$, find the value of 'y'.



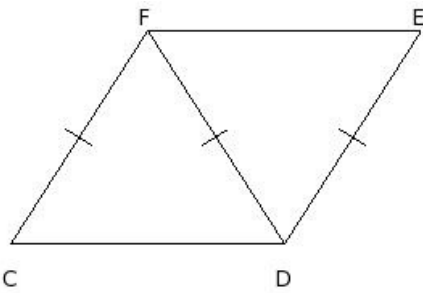
- (i) 36° (ii) 33° (iii) 35° (iv) 34° (v) 32°

43. In the given figure, EFGH is a parallelogram. EG bisects $\angle E$ & $\angle G$.
Given $EG = 15$ cm and $FH = 10$ cm, find EF



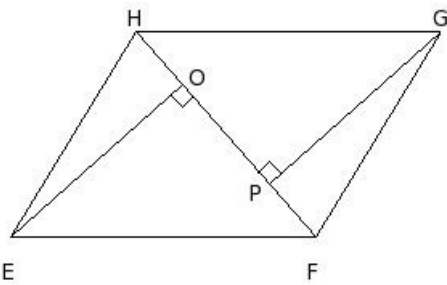
- (i) 7.01 cm (ii) 8.01 cm (iii) 9.01 cm (iv) 11.01 cm (v) 10.01 cm

44. In the given figure, CDEF is a parallelogram. DF is the diagonal such that $CF = DF = DE$. Given $\angle C = 57^\circ$, find $\angle FDE$



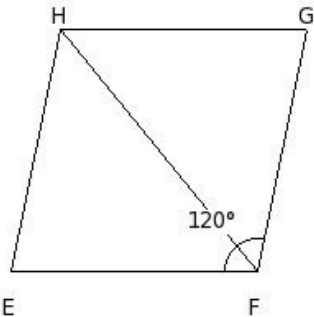
- (i) 68° (ii) 66° (iii) 67° (iv) 65° (v) 64°

45. In the given figure, EFGH is a parallelogram. EO and GP are perpendicular to the diagonal FH. Given $\angle OEF = 42^\circ$, find $\angle GHF$



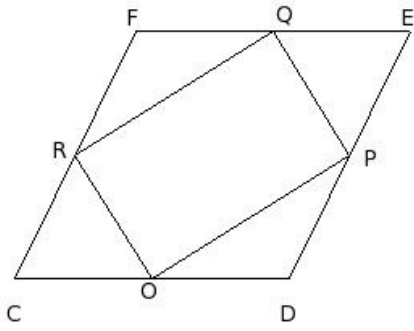
- (i) 50° (ii) 48° (iii) 46° (iv) 49° (v) 47°

46. In the given figure, EFGH is a rhombus such that $\angle F = 120^\circ$. Then $\triangle EFH$ is



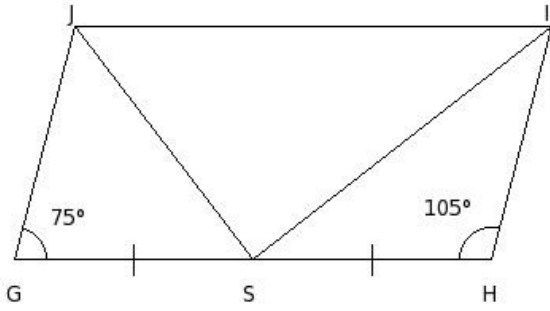
- (i) Right angled triangle (ii) Equilateral triangle (iii) Isosceles triangle (iv) Obtuse angled triangle

47. CDEF is a rhombus. O, P, Q and R are mid-points of sides CD, DE, EF and FC. Find $\angle PQR$



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

48. In the given figure, GHIJ is a parallelogram such that S is the mid-point of GH and $GH = 2JG$. Find $\angle JSI$



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

Assignment Key

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