

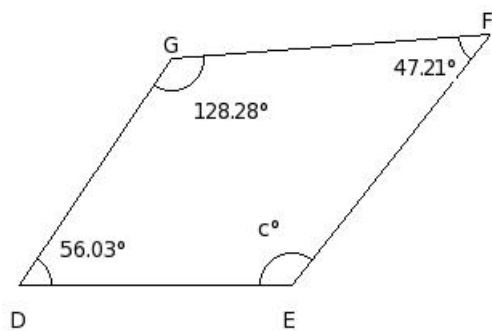
EduSahara™ Learning Center Assignment

Grade : Class VII, SSC
Chapter : Quadrilaterals
Name : Quadrilateral Angle Problems
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1. The measures of three angles of a quadrilateral are 67.38° , 111.75° and 81.28° . Find the fourth angle

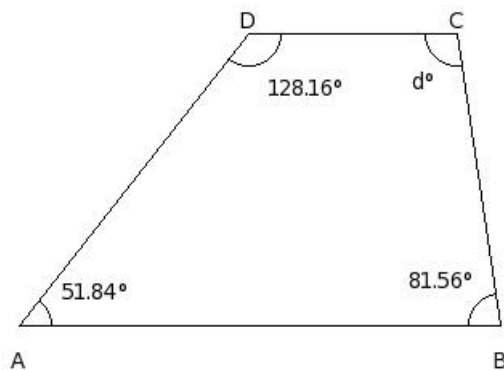
(i) 99.59° (ii) 114.59° (iii) 104.59° (iv) 109.59° (v) 129.59°

2. Find the missing angle in the given quadrilateral



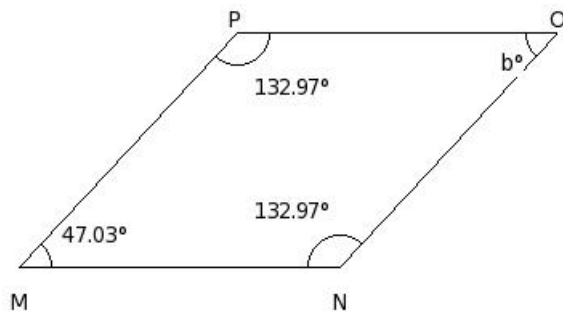
(i) 133.48° (ii) 128.48° (iii) 158.48° (iv) 143.48° (v) 138.48°

3. Find the missing angle in the given trapezium



(i) 103.44° (ii) 113.44° (iii) 128.44° (iv) 98.44° (v) 108.44°

4. Find the missing angle in the given rhombus



- (i) 62.03° (ii) 52.03° (iii) 47.03° (iv) 57.03° (v) 77.03°

5. In parallelogram ABCD, if $\angle B = 136.77^\circ$, then find the value of $\angle A$

- (i) 41.23° (ii) 43.23° (iii) 44.23° (iv) 45.23° (v) 42.23°

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

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

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

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

8. If ABCD is an isosceles trapezium, $\angle C =$

- (i) $\angle D$ (ii) $\angle A$ (iii) 90° (iv) $\angle B$

9. JKLM is a rhombus in which $\angle J = 120^\circ$. $\overline{JL}$ is the diagonal. Then $\triangle JKL$ is

- (i) an equilateral triangle (ii) a scalene triangle
(iii) None of these (iv) an isosceles triangle
(v) an acute angled triangle

10. HIJK is a rhombus in which $\angle H = 118^\circ$. $\overline{HJ}$ is the diagonal. Then $\triangle HIJ$ is

- (i) a scalene triangle (ii) an equilateral triangle
(iii) an isosceles triangle (iv) an acute angled triangle
(v) None of these

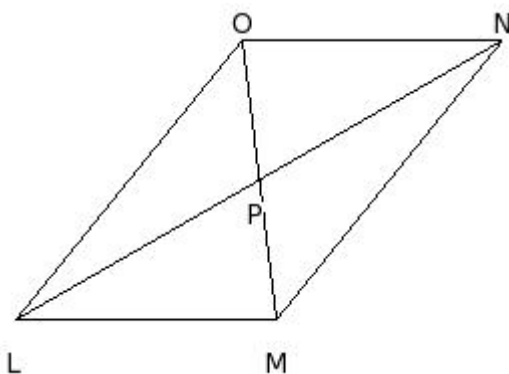
11. The angles of a quadrilateral FGHI are in the ratio 6 : 19 : 21 : 26 .
Find the measure of each angle of the quadrilateral.

- (i) $F = 29^\circ, G = 93^\circ, H = 106^\circ, I = 132^\circ$
- (ii) $F = 32^\circ, G = 94^\circ, H = 103^\circ, I = 131^\circ$
- (iii) $F = 30^\circ, G = 95^\circ, H = 105^\circ, I = 130^\circ$
- (iv) $F = 28^\circ, G = 97^\circ, H = 104^\circ, I = 131^\circ$
- (v) $F = 31^\circ, G = 94^\circ, H = 107^\circ, I = 128^\circ$

12. Two adjacent angles of a parallelogram PQRS are in the ratio 36 : 54 .
Find the measure of each of its angles.

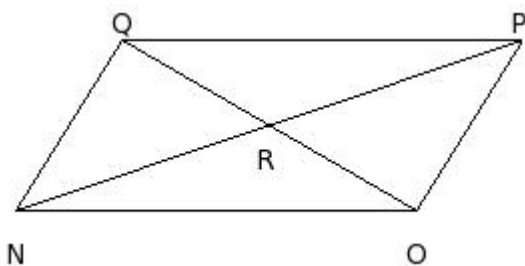
- (i) $P = 70^\circ, Q = 110^\circ, R = 71^\circ, S = 109^\circ$
- (ii) $P = 71^\circ, Q = 106^\circ, R = 73^\circ, S = 110^\circ$
- (iii) $P = 74^\circ, Q = 107^\circ, R = 70^\circ, S = 109^\circ$
- (iv) $P = 73^\circ, Q = 107^\circ, R = 74^\circ, S = 106^\circ$
- (v) $P = 72^\circ, Q = 108^\circ, R = 72^\circ, S = 108^\circ$

13. In the adjoining figure, LMNO is a parallelogram in which
 $\angle OLN = 21.2^\circ, \angle NLM = 29.69^\circ, \angle OPN = 66.67^\circ$. Calculate $\angle LMO$



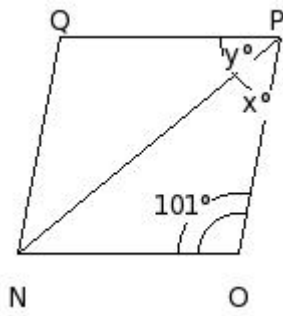
- (i) 84.64° (ii) 82.64° (iii) 85.64° (iv) 81.64° (v) 83.64°

14. In the adjoining figure, NOPQ is a parallelogram in which
 $\angle QNP = 39.62^\circ, \angle PNO = 18.43^\circ, \angle QRP = 130.79^\circ$. Calculate $\angle PQO$



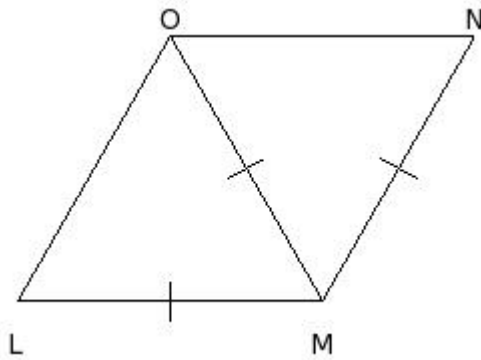
- (i) 32.78° (ii) 30.78° (iii) 31.78° (iv) 29.78° (v) 28.78°

15. Three angles of quadrilateral measure 37.5° , 70.53° and 110.19° respectively. Find the measure of the fourth angle
(i) 142.78° (ii) 143.78° (iii) 141.78° (iv) 140.78° (v) 139.78°
-
16. Three angles of a quadrilateral are equal and the fourth angle measure 92.87° . What is the measure of each of the equal angles?
(i) 89.04° (ii) 88.04° (iii) 87.04° (iv) 91.04° (v) 90.04°
-
17. Two angles of a quadrilateral are of measure 108.21° and 61.27° respectively and the other two angles are equal. Find the measure of each of the equal angles.
(i) 95.26° (ii) 94.26° (iii) 97.26° (iv) 96.26° (v) 93.26°
-
18. A quadrilateral has three acute angles, each measuring 33° . What is the measure of its fourth angle?
(i) 260.00° (ii) 263.00° (iii) 262.00° (iv) 259.00° (v) 261.00°
-
19. One angle of a parallelogram measures $B = 59.3^\circ$.
Find the measure of each of its remaining angles.
(i) $C = 122.7^\circ$, $D = 61.3^\circ$, $E = 122.7^\circ$
(ii) $C = 118.7^\circ$, $D = 57.3^\circ$, $E = 118.7^\circ$
(iii) $C = 121.7^\circ$, $D = 60.3^\circ$, $E = 121.7^\circ$
(iv) $C = 120.7^\circ$, $D = 59.3^\circ$, $E = 120.7^\circ$
(v) $C = 119.7^\circ$, $D = 58.3^\circ$, $E = 119.7^\circ$
-
20. Two adjacent angles of a parallelogram are in the ratio 2 : 4 .
Find the measure of each of its angles.
(i) $A = 58^\circ$, $B = 122^\circ$, $C = 59^\circ$, $D = 121^\circ$
(ii) $A = 61^\circ$, $B = 119^\circ$, $C = 62^\circ$, $D = 118^\circ$
(iii) $A = 60^\circ$, $B = 120^\circ$, $C = 60^\circ$, $D = 120^\circ$
(iv) $A = 62^\circ$, $B = 119^\circ$, $C = 58^\circ$, $D = 121^\circ$
(v) $A = 59^\circ$, $B = 118^\circ$, $C = 61^\circ$, $D = 122^\circ$
-
21. In the figure given below, NOPQ is a rhombus. Find the values of x and y



- (i) $x = 38.5^\circ, y = 38.5^\circ$
- (ii) $x = 40.5^\circ, y = 40.5^\circ$
- (iii) $x = 41.5^\circ, y = 41.5^\circ$
- (iv) $x = 37.5^\circ, y = 37.5^\circ$
- (v) $x = 39.5^\circ, y = 39.5^\circ$

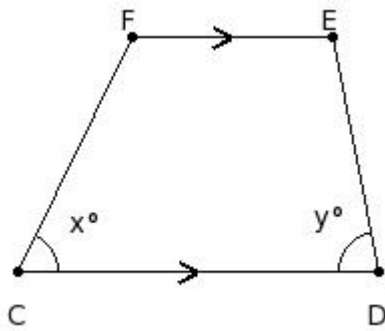
22. One of the diagonals of a rhombus is equal to one of its sides. Find the angles of the rhombus



- (i) $L = 58^\circ, M = 122^\circ, N = 59^\circ, O = 121^\circ$
- (ii) $L = 60^\circ, M = 120^\circ, N = 60^\circ, O = 120^\circ$
- (iii) $L = 61^\circ, M = 119^\circ, N = 62^\circ, O = 118^\circ$
- (iv) $L = 62^\circ, M = 119^\circ, N = 58^\circ, O = 121^\circ$
- (v) $L = 59^\circ, M = 118^\circ, N = 61^\circ, O = 122^\circ$

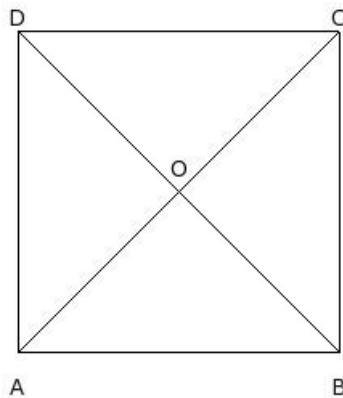
23. In the adjoining figure, CDEF is a trapezium in which $\overline{CD} \parallel \overline{EF}$.

If $x = 64.03^\circ$ and $y = 78.88^\circ$, find the measures of $\angle E$ and $\angle F$.



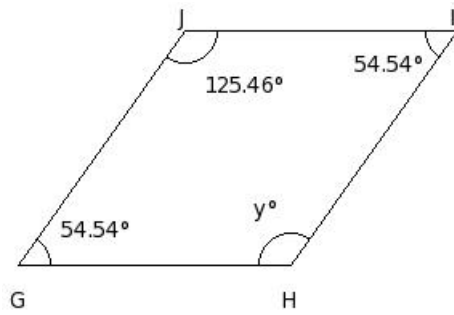
- (i) $E = 101.12^\circ$, $F = 115.97^\circ$
- (ii) $E = 102.12^\circ$, $F = 116.97^\circ$
- (iii) $E = 99.12^\circ$, $F = 113.97^\circ$
- (iv) $E = 100.12^\circ$, $F = 114.97^\circ$
- (v) $E = 103.12^\circ$, $F = 117.97^\circ$

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



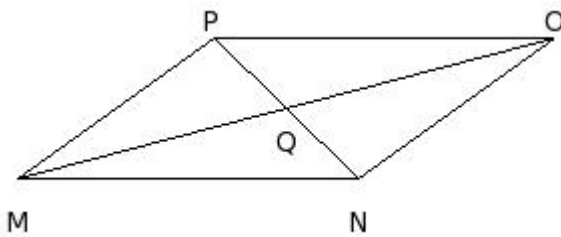
- (i) $O = 88^\circ$, $A = 45^\circ$, $B = 47^\circ$
- (ii) $O = 92^\circ$, $A = 45^\circ$, $B = 43^\circ$
- (iii) $O = 90^\circ$, $A = 45^\circ$, $B = 45^\circ$
- (iv) $O = 88^\circ$, $A = 47^\circ$, $B = 45^\circ$
- (v) $O = 90^\circ$, $A = 43^\circ$, $B = 47^\circ$

25. Find the missing angle in the given parallelogram



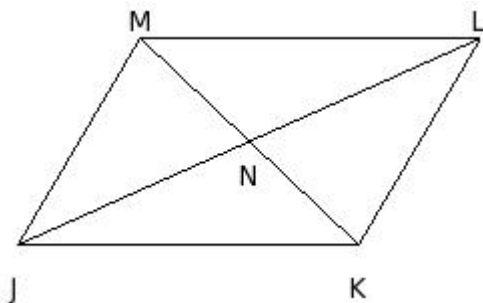
- (i) 130.46° (ii) 140.46° (iii) 125.46° (iv) 135.46° (v) 155.46°

26. In the adjoining figure, MNOP is a parallelogram in which $\angle PMO = 20.9^\circ$, $\angle OMN = 14.64^\circ$, $\angle PQO = 121.17^\circ$. Calculate $\angle NOM$



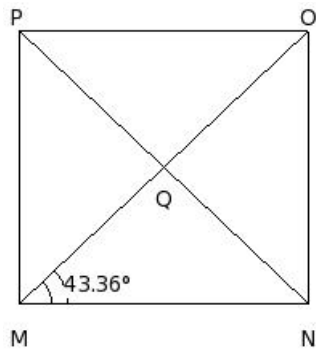
- (i) 21.90° (ii) 19.90° (iii) 22.90° (iv) 20.90° (v) 18.90°

27. In the adjoining figure, JKLM is a parallelogram in which $\angle MJL = 35.45^\circ$, $\angle LJK = 23.92^\circ$, $\angle MNL = 111.93^\circ$. Calculate $\angle MKL$



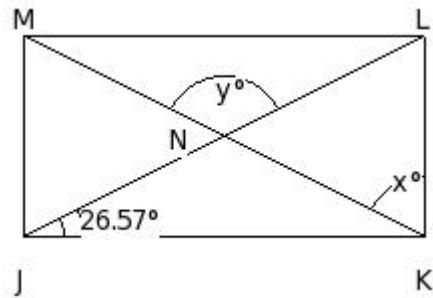
- (i) 76.49° (ii) 74.49° (iii) 78.49° (iv) 77.49° (v) 75.49°

28. In the adjoining figure, MNOP is a rectangle. If $\angle OMN = 43.36^\circ$, find $\angle OQN$



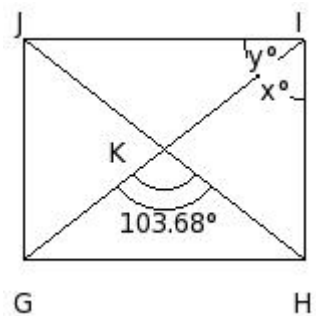
- (i) 88.72° (ii) 86.72° (iii) 84.72° (iv) 85.72° (v) 87.72°

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



- (i) $x = 61.43^\circ, y = 124.86^\circ$
 (ii) $x = 62.43^\circ, y = 125.86^\circ$
 (iii) $x = 65.43^\circ, y = 128.86^\circ$
 (iv) $x = 63.43^\circ, y = 126.86^\circ$
 (v) $x = 64.43^\circ, y = 127.86^\circ$

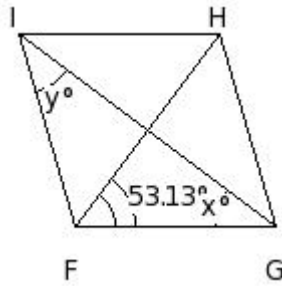
30. In the figure given below, GHIJ is a rectangle. Find the values of x and y



- (i) $x = 53.84^\circ, y = 40.16^\circ$
 (ii) $x = 51.84^\circ, y = 38.16^\circ$
 (iii) $x = 52.84^\circ, y = 39.16^\circ$
 (iv) $x = 50.84^\circ, y = 37.16^\circ$

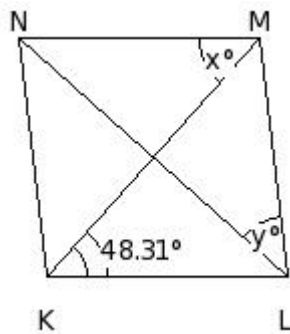
(v) $x = 49.84^\circ, y = 36.16^\circ$

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



- (i) $x = 36.87^\circ, y = 36.87^\circ$
- (ii) $x = 34.87^\circ, y = 34.87^\circ$
- (iii) $x = 37.87^\circ, y = 37.87^\circ$
- (iv) $x = 35.87^\circ, y = 35.87^\circ$
- (v) $x = 38.87^\circ, y = 38.87^\circ$

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

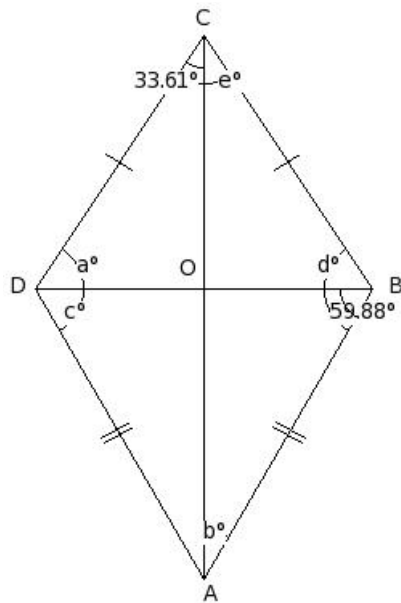


- (i) $x = 46.31^\circ, y = 39.69^\circ$
- (ii) $x = 47.31^\circ, y = 40.69^\circ$
- (iii) $x = 50.31^\circ, y = 43.69^\circ$
- (iv) $x = 49.31^\circ, y = 42.69^\circ$
- (v) $x = 48.31^\circ, y = 41.69^\circ$

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

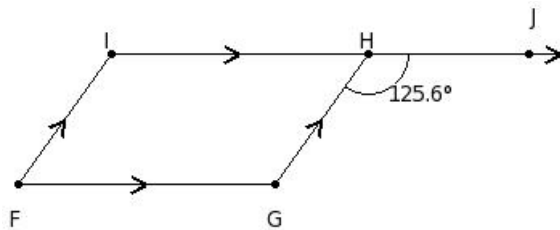
33. and the diagonals $\overline{BD}$ and $\overline{AC}$ intersect at O.

If $\angle OCD = 33.61^\circ$ and $\angle ABO = 59.88^\circ$, find the measure of each of the angles marked a, b, c, d and e.



- (i) $a = 56.39^\circ$, $b = 30.12^\circ$, $c = 59.88^\circ$, $d = 56.39^\circ$, $e = 33.61^\circ$
 (ii) $a = 56.39^\circ$, $b = 31.12^\circ$, $c = 59.88^\circ$, $d = 56.39^\circ$, $e = 33.61^\circ$
 (iii) $a = 56.39^\circ$, $b = 31.12^\circ$, $c = 58.88^\circ$, $d = 58.39^\circ$, $e = 33.61^\circ$
 (iv) $a = 56.39^\circ$, $b = 31.12^\circ$, $c = 58.88^\circ$, $d = 58.39^\circ$, $e = 31.61^\circ$
 (v) $a = 56.39^\circ$, $b = 31.12^\circ$, $c = 58.88^\circ$, $d = 56.39^\circ$, $e = 33.61^\circ$

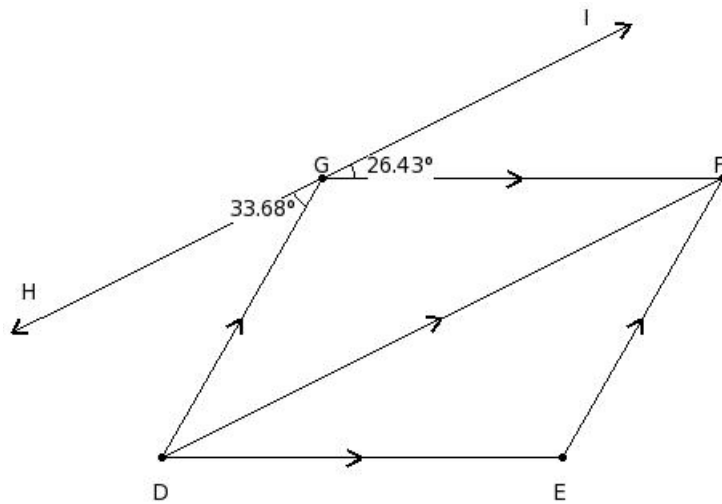
34. In the adjoining figure, side HI of parallelogram FGHI has been produced to J. If $\angle GHJ = 125.6^\circ$, find the measure of each angle of the parallelogram.



- (i) $F = 55.4^\circ$, $G = 124.6^\circ$, $H = 56.4^\circ$, $I = 123.6^\circ$
 (ii) $F = 53.4^\circ$, $G = 123.6^\circ$, $H = 55.4^\circ$, $I = 127.6^\circ$
 (iii) $F = 52.4^\circ$, $G = 127.6^\circ$, $H = 53.4^\circ$, $I = 126.6^\circ$
 (iv) $F = 56.4^\circ$, $G = 124.6^\circ$, $H = 52.4^\circ$, $I = 126.6^\circ$
 (v) $F = 54.4^\circ$, $G = 125.6^\circ$, $H = 54.4^\circ$, $I = 125.6^\circ$

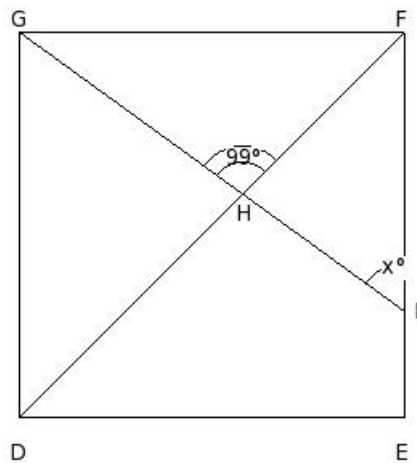
35. In the adjoining figure, DEFG is a parallelogram and HI is such that $\overline{HI} \parallel \overline{DF}$

If $\angle DGH = 33.68^\circ$ and $\angle FGI = 26.43^\circ$, find the measure of $\angle FGD$.



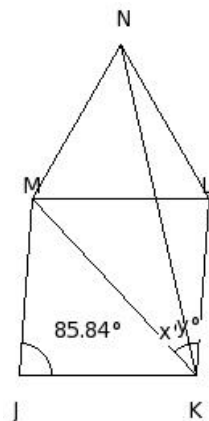
- (i) 121.89° (ii) 118.89° (iii) 120.89° (iv) 119.89° (v) 117.89°

36. In the adjoining figure, DEFG is a square. A line segment GI cuts the side EF at I and the diagonal DF at H such that $\angle GHF = 99^\circ$ and $\angle HIF = x^\circ$. Find the value of x .



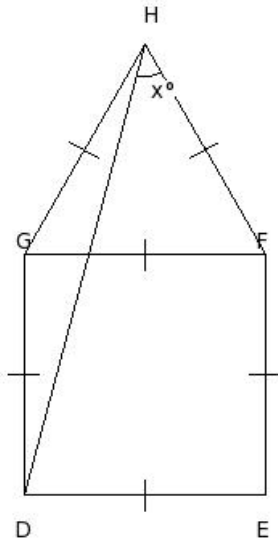
- (i) 54.00° (ii) 53.00° (iii) 55.00° (iv) 52.00° (v) 56.00°

37. In the adjoining figure, JKLM is a rhombus and $\triangle NML$ is an equilateral triangle. N and K are on opposite sides of LM. If $\angle MJK = 85.84^\circ$, find the values of x and y .



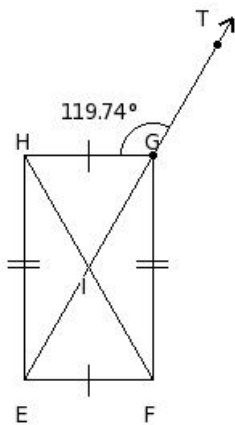
- (i) $x = 30^\circ, y = 17.08^\circ$
- (ii) $x = 28^\circ, y = 15.08^\circ$
- (iii) $x = 31^\circ, y = 18.08^\circ$
- (iv) $x = 32^\circ, y = 19.08^\circ$
- (v) $x = 29^\circ, y = 16.08^\circ$

38. In the adjoining figure, equilateral $\triangle GFH$ surmounts square $DEFG$. If $\angle FHD = x^\circ$, find the value of x .



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

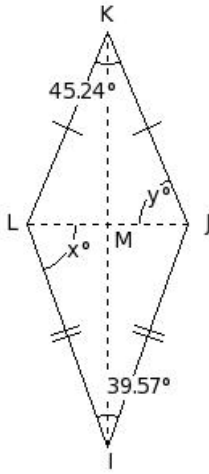
39. In the given figure, EFGH is a rectangle whose diagonals intersect at I. Diagonal EG is produced to T and $\angle HGT = 119.74^\circ$. Find the angles of $\triangle IHE$.



- (i) $\angle I = 120.52^\circ, \angle H = 29.74^\circ, \angle E = 29.74^\circ$
- (ii) $\angle I = 118.52^\circ, \angle H = 29.74^\circ, \angle E = 31.74^\circ$
- (iii) $\angle I = 118.52^\circ, \angle H = 31.74^\circ, \angle E = 29.74^\circ$
- (iv) $\angle I = 122.52^\circ, \angle H = 29.74^\circ, \angle E = 27.74^\circ$

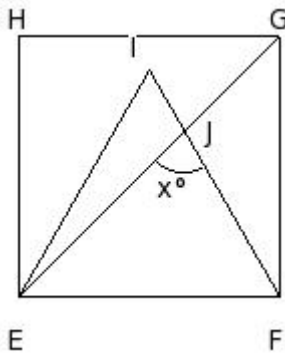
(v) $I = 120.52^\circ$, $H = 27.74^\circ$, $E = 31.74^\circ$

40. In the given figure, IJKL is a kite whose diagonals intersect at M .
If $\angle LIJ = 39.57^\circ$ and $\angle JKL = 45.24^\circ$, calculate $\angle MLI$ and $\angle MJK$.



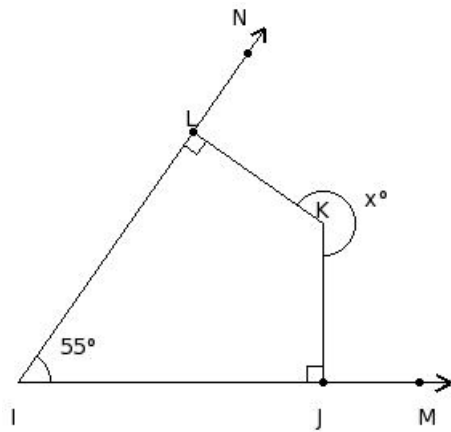
- (i) $x = 72.22^\circ$, $y = 69.38^\circ$
 (ii) $x = 71.22^\circ$, $y = 68.38^\circ$
 (iii) $x = 70.22^\circ$, $y = 67.38^\circ$
 (iv) $x = 69.22^\circ$, $y = 66.38^\circ$
 (v) $x = 68.22^\circ$, $y = 65.38^\circ$

41. $\triangle IEF$ is an equilateral triangle in a square EFGH .
If EG and FI intersect at J , then find the value of x.



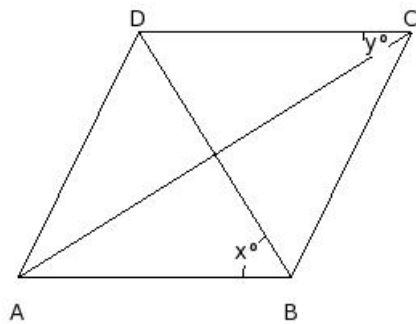
- (i) 73° (ii) 75° (iii) 74° (iv) 77° (v) 76°

42. In the adjoining figure, K is a point in the interior of $\angle MIN$.
If $KJ \perp IM$ and $KL \perp IN$ and $\angle MIN = 55^\circ$, find the measure of x .



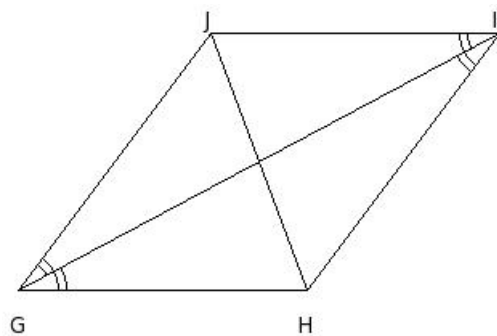
- (i) 234° (ii) 233° (iii) 236° (iv) 237° (v) 235°

43. In the given figure, ABCD is a rhombus. Given $x = 58^\circ$, find the value of 'y'.



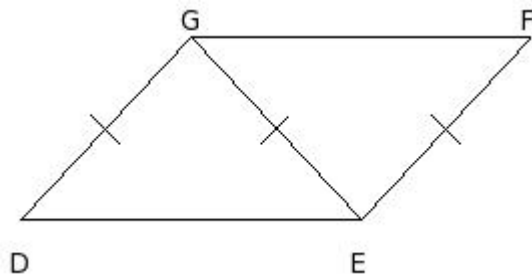
- (i) 34° (ii) 33° (iii) 32° (iv) 30° (v) 31°

44. In the given figure, GHIJ is a parallelogram. GI bisects $\angle G$ & $\angle I$.
Given $GI = 12$ cm and $HJ = 8$ cm, find GH



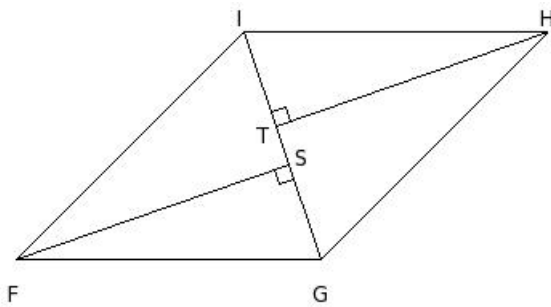
- (i) 6.21 cm (ii) 8.21 cm (iii) 5.21 cm (iv) 7.21 cm (v) 9.21 cm

45. In the given figure, DEFG is a parallelogram. EG is the diagonal such that $DG = EG = EF$. Given $\angle D = 47^\circ$, find $\angle GEF$



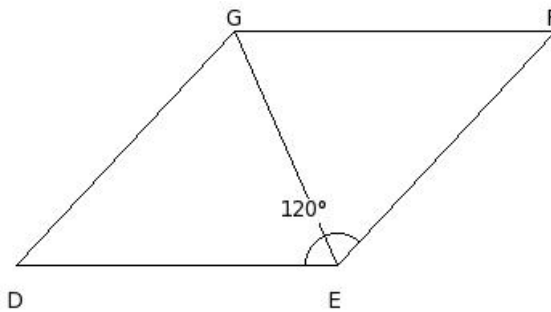
- (i) 85° (ii) 87° (iii) 86° (iv) 88° (v) 84°

46. In the given figure, FGHI is a parallelogram. FS and HT are perpendicular to the diagonal GI. Given $\angle SFG = 19^\circ$, find $\angle HIG$



- (i) 72° (ii) 71° (iii) 73° (iv) 69° (v) 70°

47. In the given figure, DEFG is a rhombus such that $\angle E = 120^\circ$. Then $\triangle DEG$ is



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

Assignment Key

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

40) (iii)

41) (ii)

42) (v)

43) (iii)

44) (iv)

45) (iii)

46) (ii)

47) (i)