MATHS

BOOKS - CBSE COMPLEMENTARY MATERIAL MATHS (HINGLISH)

QUARILATERAL

Part A

1. Three angles of a quadrilateral are $75^\circ, 90^\circ$ and 75°, then the fourth angle is

A. 90°

B. 95°

C. 105°

D. 120°

Answer: D

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2. ABCD is a rhombus such that $\angle ACB = 40^\circ$

, then $\angle ADB$ is

A. 40°

B. 45°

C. 50°

D. 60°

Answer: C

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3. The bisector of the angles of a parallelogram enclose a .....

A. Parallelogram

B. square

C. Rhombus

D. Rectangle

Answer: D

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4. The figure obtained by joining the mid-points of the sides of a rhombus, taken in order, is

A. Square

B. Parallelogram

C. Rectangle

D. Rhombus

Answer: B

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5. The diagonals AC and BD of a parallelogram ABCD intersect each other at the point O. If

$\angle DAC = 32^\circ$ and $\angle AOB = 70^\circ$, then

$\angle DBC$ is equal to

A. 24°

B. 86°

C. 38°

D. 32°

Answer: C

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6. The angles of a quadrilateral are in the ratio $3:4:5:6$. The respective angles of the quadrilateral are

A. $60^\circ, 80^\circ, 100^\circ, 120^\circ$

B. $120^\circ, 100^\circ, 80^\circ, 60^\circ$

C. $120^\circ, 60^\circ, 80^\circ, 100^\circ$

D. $80^\circ, 120^\circ, 100^\circ, 60^\circ$

Answer: A

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7. Prove that the line segment joining the mid points of two side of a triangle is parallel to the third side and equal to half of it.

A. Trisect

B. Bisect

C. Half

D. One fourth

Answer: C

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8. If two consecutive sides of a rhombus are represented by $3x - 6$ and $x + 14$ then the perimeter of the rhombus is

A. 10

B. 24

C. 70

D. 96

Answer: D

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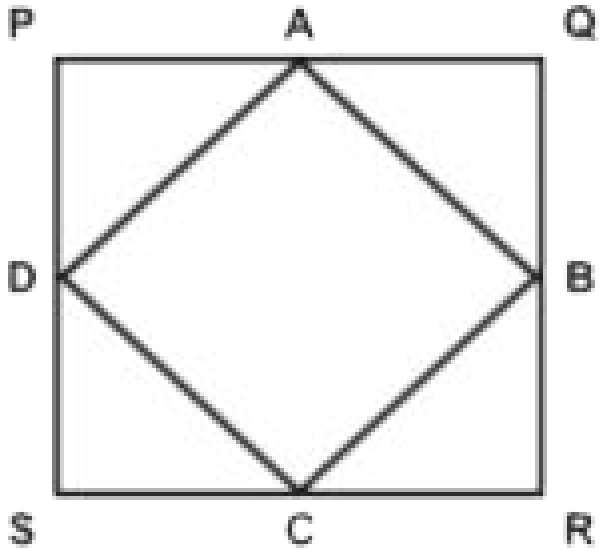
9. Points A, B, C and D are midpoints of the sides of square PQRS. If the area of PQRS is 36 Sqcm, the area of ABCD is .....Sqcm



A. $9\sqrt{2}$

B. $18\sqrt{2}$

C. 9

D. 18

Answer: D

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10. The perimeter of a rhombus is 60 cm. If the length of its longer diagonal measures 24 cm, the length of the shorter diagonal is ..... cm.

A. 20

B. 18

C. 15

D. 9

Answer: B

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11. Which statement is true about all parallelogram

A. The diagonals are congruent.

B. The area is the product of two adjacent sides

C. The opposite angles are congruent

D. The diagonals are perpendicular to each other.

Answer: C

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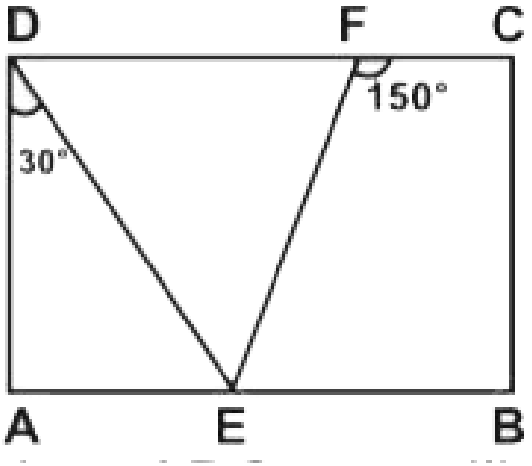
12. In the given figure ABCD is a rectangle $m\angle ADE = 30^\circ$ and $m\angle CFE = 150^\circ$.

What is $m\angle DEF$



A. 90°

B. 75°

C. 110°

D. 85°

Answer: A

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13. Given four points A, B, C, D such that three points ABC are collinear. By joining these points in order to get a closed figure, we get :-

A. A Straight line

B. A Triangle

C. A Quadrilateral

D. None of these

Answer: B

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14. Consecutive angles of parallelogram are

A. Equal

B. Complimentary

C. Supplementary

D. None of these

Answer: C

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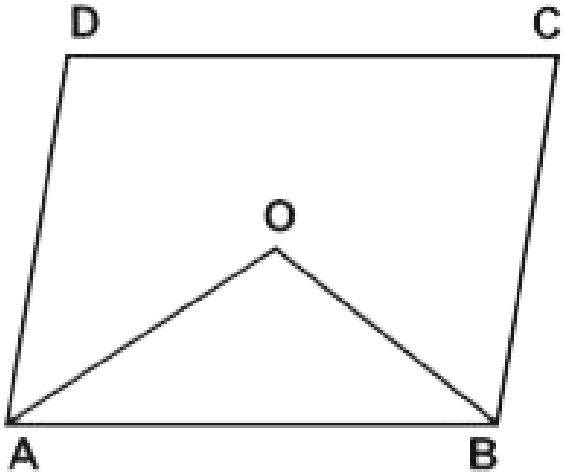
15. In parallelogram ABCD, bisectors of angles A and B intersect each other at "O" the value

of angle AOB is.



A. 90°

B. 30°

C. 60°

D. 120°

Answer: A

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16. If an angle of a parallelogram is two-third of its adjacent angle, find the angles of the parallelogram.

A. 108°

B. 54°

C. 81°

D. 72°

Answer: D

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17. A parallelogram must NOT be a rectangle if its diagonals :-

A. Bisect each other

B. Are congruent

C. Are Perpendicular to each other

D. None of these

Answer: C

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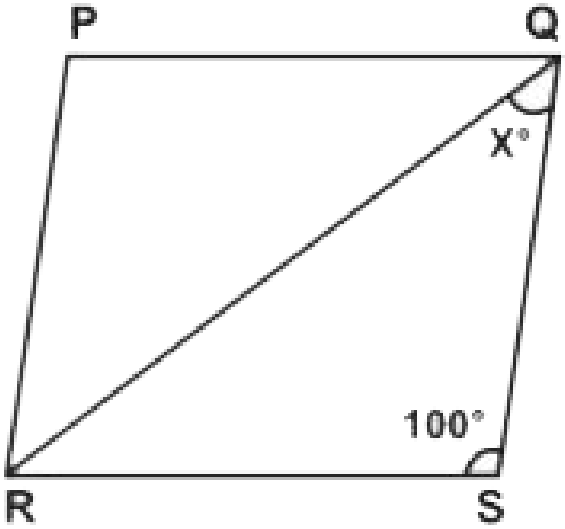
18. In the given figure PQRS is a rhombus, then the value of x is



A. 40°

B. 50°

C. 60°

D. 80°

Answer: A

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19. If in a rectangle ABCD, diagonal AC bisect $\angle A$ as well as $\angle C$ then ABCD is a

A. Parallelogram

B. square

C. Rhombus

D. Trapezium

Answer: C

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20. Two adjacent angles in a parallelogram are in the ratio $2:4$. The values of angles are

A. $80^\circ, 100^\circ$

B. $40^\circ, 140^\circ$

C. $60^\circ, 120^\circ$

D. $70^\circ, 140^\circ$

Answer: C

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21. In a rhombus ABCD, if $\angle A = 60^\circ$ find $\angle B, \angle C \& \angle D$.

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22. The angles of a quadrilateral are in the ratio $1:2:4:5$. Find the measure of each angle.

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23. If in a rhombus $LMNP, \angle LNM = 40^\circ$ then what is the measure of $\angle LPM$?

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24. If in a parallelogram if all the four angles are in the ratio $1:1:1:1$ then, what type of parallelogram is this?

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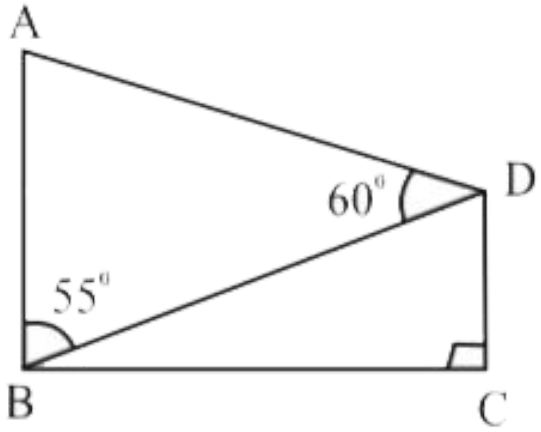
25. In the figure, AB || CD, what will be the measure of $\angle ADC$?



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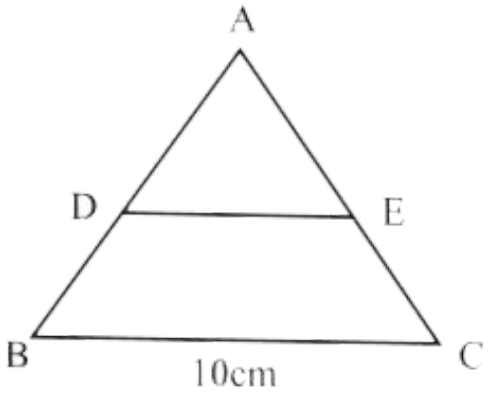
26. In the figure, if D & E are respectively the mid points of AB & AC, what will be the length

of ED?



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27. PQRS is rhombus with $\angle QPS = 50^\circ$. Find $\angle PQS$.

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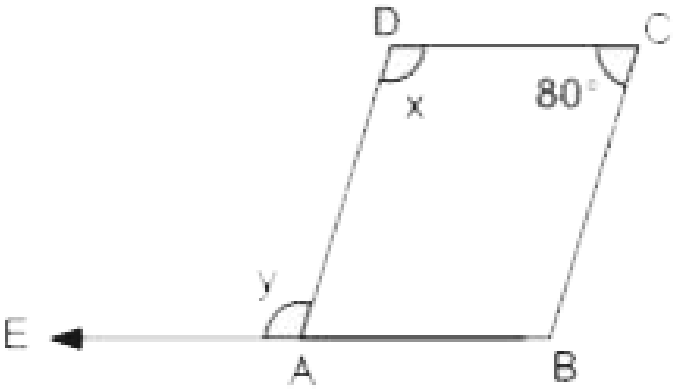
28. In the figure, ABCD is a parallelogram find value of $(x + y)$.



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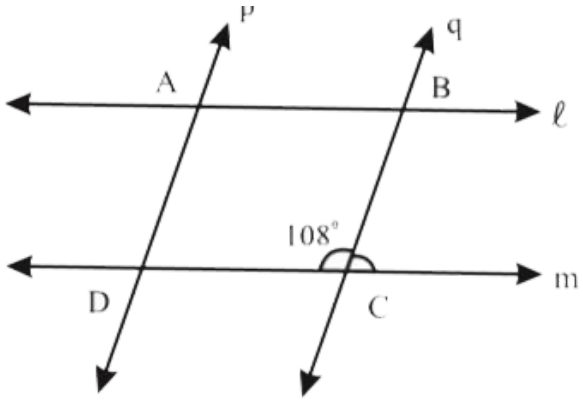
29. In the figure line $l \parallel$ m and p $\parallel$ q, $\angle BCD = 108^\circ$ find all four angles of quadrilateral ABCD.



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30. If two adjacent angles of a parallelogram ABCD are in the ratio $5:4$, find all the angles of the parallelogram.

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Part A True T And False F

1. In a parallelogram, the diagonals are equal (T / F)

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2. If all the angles of a quadrilateral are equal, it is a parallelogram. (True/False)

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3. The diagonals of parallelogram bisect each other (True/ False)

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4. The diagonals of rhombus are equal (True / False)

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5. All the angles of parallelogram are acute angles (True / False)

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6. In a trapezium both pair of opposite sides are parallel (True/False)

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Part B

1. Theorem 1 the sum of the angles of a quadrilateral is 360° or 4 right angles.

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2. The opposite angles of a parallelogram are equal.

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3. In a parallelogram $ABCD \angle B = 110^\circ$ determine the measure of $\angle A$ and $\angle D$.

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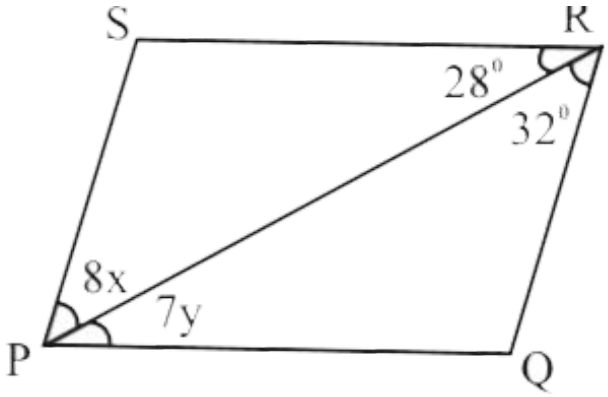
4. In the figure if PQRS is a parallelogram, then find the value of x & y.



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5. The diagonals of a parallelogram $ABCD$ intersect at $O\dot{A}$ line through O intersects AB at X and DC at $Y\cdot$ Prove that $OX = OY\cdot$

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6. In a parallelogram ABCD diagonals AC and BD intersect at O and AC = 7.4 cm and BD = 6.2 cm. Find the length of AO and BO.

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7. Two opposite angles of a parallelogram are $(5x - 3)$ and $(4x + 12)$. Find the measure of each angle of the parallelogram.

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8. Diagonals of a quadrilateral ABCD bisect each other. If $\angle A = 35^\circ$, determine $\angle B$.

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9. The perimeter of a parallelogram is 30 cm. If longer side is 9.5 cm then find the length of shorter side.

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10. In a parallelogram ABCD diagonals AC and BD intersect at O and AC =12.6 cm and BD = 9.4 cm. Find the measures of OC and OD.

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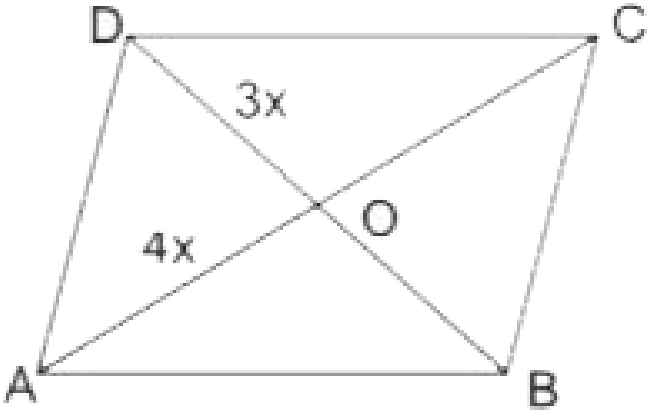
11. ABCD is a rhombus in which DO = 3x & AO = 4x, find perimeter of quadrilateral ABCD.



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12. The angles of a quadrilateral are $(x+20, (x-20), (2x+5), (2x-5)$. Find the value of x.

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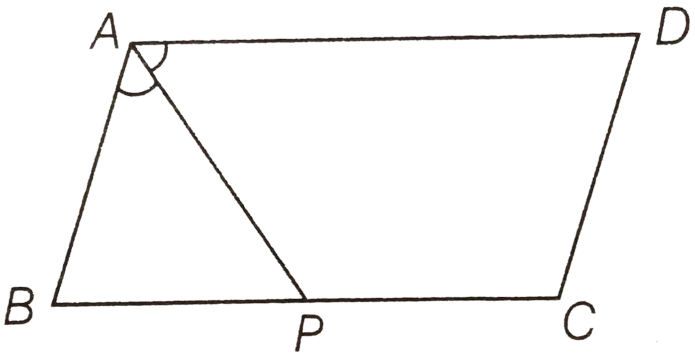
Part C

1. In figure, P is the mid-point of side BC of a parallelogram ABCD such that $\angle BAP = \angle DAP$. Prove that AD = 2CD. ltBrgt



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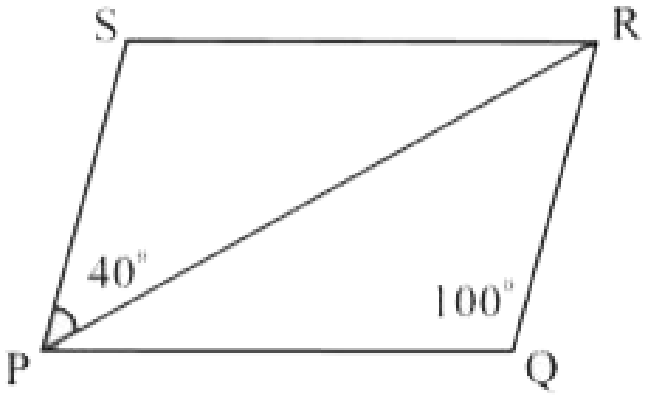
2. In the adjoining figure if PQRS is a parallelogram where $\angle PQR = 100$ and $\angle SPR = 40$. Find $\angle PRQ$ and $\angle SRQ$.



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3. Prove that the line segment joining the mid points of two side of a triangle is parallel to the third side and equal to half of it.

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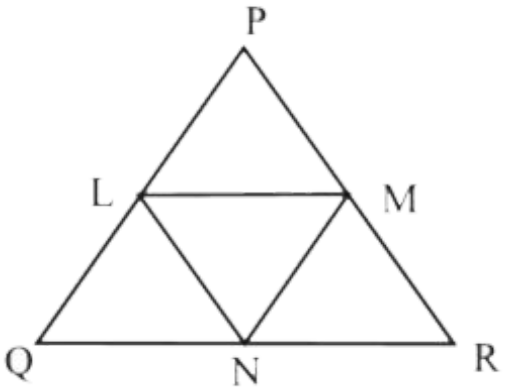
4. In the given figure L, M and N are mid point of the sides PQ, PR and QR respectively of ΔPQR. If PQ = 4.4 cm, QR = 5.6 cm and PR =

4.8 cm then find the perimeter of ΔLMN.



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5. A quadrilateral is parallelogram; if itsone pair of opposite sides are equal and parallel

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6. If the diagonals of a quadrilateral bisect each other; then the quadrilateral is a parallelogram.

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7. In a parallelograms PQRS, M and N are points on PQ and RS such that PM = RN. Prove that MS || NQ.

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8. ABCD is a parallelogram and AP and CQ are perpendiculars from vertices A and C on diagonal BD . Show that(i) $\Delta APB \cong \Delta CQD$ (ii) $AP = CQ$

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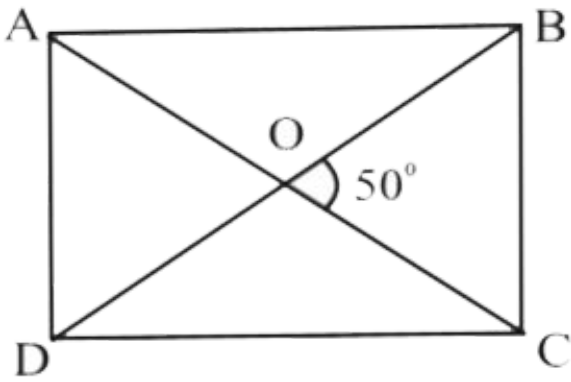
9. The diagonals of a rectangle ABCD meet at O. If $\angle BOC = 50^\circ$ then find $\angle ODA$.



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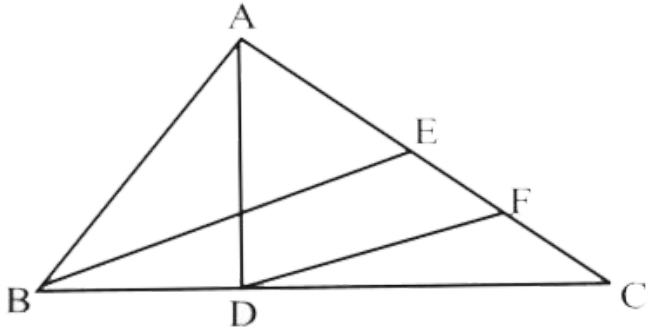
10. In the given figure AD and BE are the medians of ΔABC and BE || DF . Prove that

$CF = 1/4AC.$



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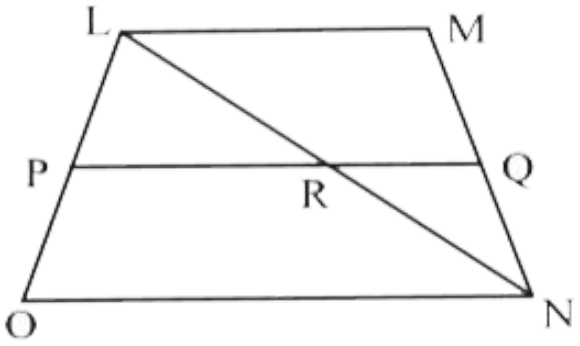
Part D

1. In the figure LMNO, is a trapezium in which LM is parallel to side ON and P is the mid point of side LO. If Q is a point on the side MN such

that segment PQ is parallel to side ON Prove that Q is the mid point of MN and $PQ = 1/2(LM + ON)$.



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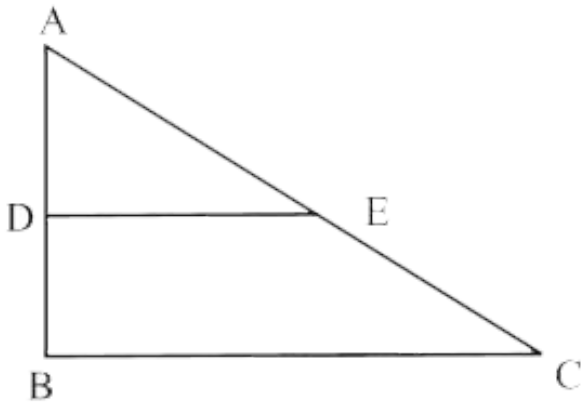
2. In the figure, ΔABC is right angled at B. If AB = 9 cm, AC = 15 cm. and D and E are the mid points of AB & AC respectively calculate.

(i) The length of BC

(ii) The area of trapezium BCED



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3. A farmer has divided his field into three parts as in the figure. Ist part is used to take care of his cattles. While II and III are used to

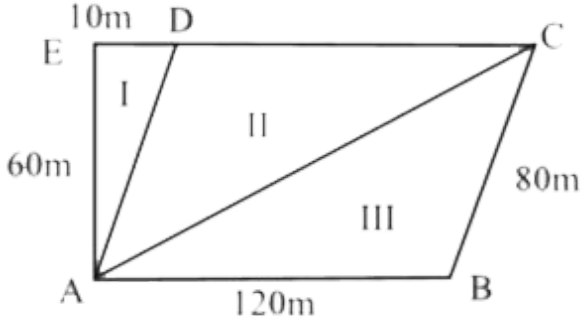
grow two different crops.

Answer the following :-

(i) How much area has been used to take care for cattles?

(ii) Are the two areas part II and part III equal ? Justify.

(iii) What is the total area of the field?



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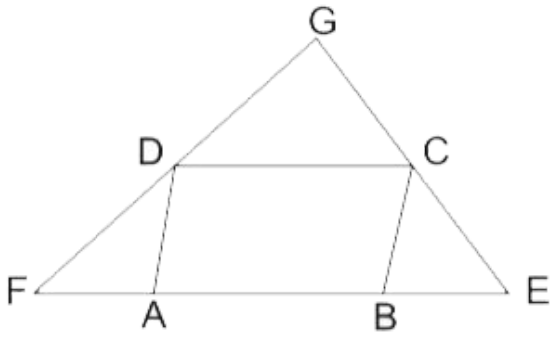
4. ABCD is a parallelogram. Side AB is produced on both sides to E & F as in figure such that BE = BC & AF = AD. Show that EC & FD when produced meets at right angle.



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5. P is the mid-point of the side CD of a parallelogram ABCD. A line through C parallel to PA intersects AB at Q and DA produced at R. Prove that DA = AR and CQ = QR.

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