MATHS

BOOKS - VGS PUBLICATION-BRILLIANT

CONSTRUCTION AND QUADRILATERALS

Exercise

1. Is every rectangle a parallelogram ? Is every parallelogram a rectangle ?

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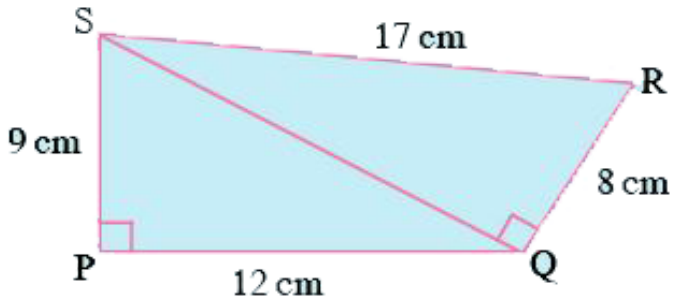
2. Find the area of a quadrilateral PQRS in which $\angle QPS = \angle SQR = 90^\circ$, $PQ = 12cm$, $PS = 9cm$, $QR = 8cm$ and $SR = 17cm$.

(Hint: PQRS has two parts)



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3. Can you draw a parallelogram BATS where BA = 5 cm, AT = 6 cm and AS= 6.5 cm ? Explain.

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4. Construct the quadrilaterals with the given measurements. And write steps of construction:Quadrilateral ABCD with AB 5.5 cm, BC = 3.5 cm, CD = 4 cm, AD=5 cm and $\angle A = 45^\circ$.

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5. Construct the quadrilaterals with the given measurements. And write steps of construction: Quadrilateral BEST with BE = 2.9 cm, ES = 3.2 cm, ST = 2.7 cm, BT=3.4 cm and $\angle B - 75^{\circ}$.

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6. Construct the quadrilaterals with the given measurements. And write steps of

construction: Parallelogram PQRS with PQ = 4.5 cm, QR = 3 cim and $\angle PQR = 60^\circ$

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7. Construct the quadrilaterals with the given measurements. And write steps of construction: Rhombus MATH with AT = 4 cm, $\angle MAT = 120^\circ$.

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8. Construct Quadrilateral GAME with GA=5cm, AM = 5.5 cm, EG=6cm, GM = 6.5cm and AE = 7cm and write steps of construction.

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9. Construct the quadrilaterals with the given measurements. And write steps of construction: Square LUDO with LU = 4.5 cm.

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10. Draw a rhombus ABCD in which diagonals AC= 4.5 cm and BD = 6 cm.

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11. Can you draw a parallelogram BATS where BA = 5 cm, AT = 6 cm and AS= 6.5 cm ? Explain.

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12. Construct Quadrilateral GAME with GA=5cm, AM = 5.5 cm, EG=6cm, GM = 6.5cm and AE = 7cm and write steps of construction.

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13. Which measurement is required to Make a triangle along with sides 4 cm and 6 cm ?

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14. Construct quadrilaterals with the measurements given below: Rhombus NICE with NI = 4 cm and IE = 5.6 cm

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15. Construct a quadrilateral ABCD, given that AB = 4.5 cm, BC =5.2 cm,CD = 4.8 cm and diagonals AC= 5 cm and BD = 5.4 cm.

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16. Can you draw a parallelogram BATS where BA = 5 cm, AT = 6 cm and AS= 6.5 cm ? Explain.

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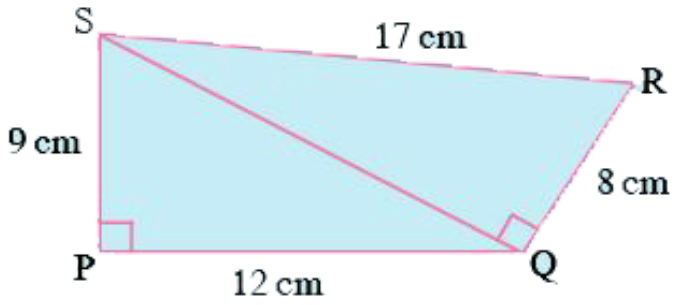
17. Find the area of a quadrilateral PQRS in which $\angle QPS = \angle SQR = 90^\circ$, $PQ = 12cm$, $PS = 9cm$, $QR = 8cm$ and $SR = 17cm$.

(Hint: PQRS has two parts)



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18. Construct the quadrilateral with the measurements given below: Quadrilateral GOLD: OL=7.5 cm, GL =6 cm, LD=5 cm, DG = 5.5 cm and OD = 10 cm.

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19. Construct the quadrilateral with the measurements given below: Quadrilateral

PQRS: PQ =4.2 cm, QR = 3 cm, PS= 2.8 cm, PR= 4.5 cm and QS = 5 cm.

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20. Construct a quadrilateral PQRS, given that PQ = 4 cm, QR = 4.8 cm, $\angle P = 75^\circ$, $\angle Q = 100^\circ$ and $\angle R = 120^\circ$.

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21. Can you construct the quadrilateral PQRS, PQ =4 cm, QR = 4.8 cm, $\angle P = 75^\circ$, $\angle Q = 100^\circ$ and $\angle R = 120^\circ$, if we have an angle of 100° at P instead of 75° ?Give reason.

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22. Can you construct the quadrilateral PLAN if PL = 6 cm, LA = 9.5 cm, $\angle P = 75^\circ$ $\angle L = 15^\circ$ and $\angle A = 140^\circ$? (Draw a rough sketch in

each case and analyse the figure). State the reasons for your conclusion.

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23. Construct a parallelogram BELT, given that BE =4.2 cm, EL = 5 cm, $\angle T = 45^\circ$.

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24. Construct quadrilaterals with the measurements given below : Quadrilateral

HELP with HE = 6 cm, EL = 4.5 cm, $\angle H = 60^\circ$, $\angle E = 105^\circ$ and $\angle P = 120^\circ$

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25. Construct quadrilaterals with the measurements given below : Parallelogram GRAM with GR = AM = 5 cm, RA = MG = 6.2 cm and $\angle R = 85^\circ$.

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26. Construct quadrilaterals with the measurements given below : Rectangle FLAG with sides FL= 6 cm and LA = 4.2 cm.

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27. Construct A quadrilateral ABCD in which AB=5 cm, BC=4.5 cm, CD= 6 cm, $\angle B = 100^\circ$ and $\angle C = 75^\circ$.

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28. Do you construct the given quadrilateral ABCD (with AB=5 cm, BC= 4.5 cm, CD = 6 cm, $\angle B = 100^\circ, \angle C = 75^\circ$) by taking BC as base instead of AB ? If so, draw a rough sketch and explain the various steps involved in the construction.

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29. Quadrilateral PQRS with PQ = 3.6 cm, QR = 4.5 cm, RS=5.6 cm, $\angle RQP = 135^\circ$ and $\angle SRQ = 60^\circ$

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30. Construct Quadrilateral LAMP with AM = MP = PL =5 cm, $\angle M = 90^\circ$ and $\angle P = 60^\circ$.

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31. Trapezium ABCD in which AB $||$ CD, AB = 8 cm, BC = 6 cm, CD = 4 cm and $\angle B = 60^\circ$.

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32. Draw a rhombus ABCD in which diagonals AC= 4.5 cm and BD = 6 cm.

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33. Can you construct the given AC = 4.5 cm and BD = 6 cm quadrilateral (rhombus) taking BD as a base instead of AC ? If not give reason.

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34. Suppose the two diagonals of this rhombus are equal in length, what figure do you obtain ? Draw a rough sketch for It. State reasons.

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35. Construct Quadrilateral GAME with GA=5cm, AM = 5.5 cm, EG=6cm, GM = 6.5cm and AE = 7cm and write steps of construction.

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36. Construct quadrilaterals for measurements given below: A rhombus SOAP with SA = 4.3 cm, OP = 5 cm.

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37. Construct quadrilaterals for measurements given below: A square JUMP with diagonal 4.2 cm.

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38. Number of vertices of a quadrilateral is .....

A. 2

B. 3

C. 4

D. 5

Answer:

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39. The Number of diagonals of a Quadrilateral is .....

A. 3

B. 6

C. 4

D. 2

Answer:

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40. The Number of diagonals of a Quadrilateral is .....

A. 2

B. 4

C. 6

D. 3

Answer:

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41. Each angle in a square is .....

A. 90°

B. 70°

C. 80°

D. 100°

Answer:

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42. Number of sides in a Quadrilateral is _____

A. 4

B. 6

C. 3

D. 5

Answer:

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43. Sum of the angles in a quadrilateral is .....

A. 160°

B. 300°

C. 180°

D. 360°

Answer:

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44. The adjacent angles of a parallelogram are .....

A. 190°

B. 180°

C. 200°

D. 300°

Answer:

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45. Identify the correct among the following.

A. Each angle in a rectangle is 90°

B. Rhombus will have 5 sides

C. A Quadrilateral has two diagonals

D. Each angle in a square is 50°

Answer:

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46. If each angle of 90° is to be bisected then the measure of each angle is _____

A. 60°

B. 70°

C. 80°

D. 45°

Answer:

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47. In a rhombus diagonals intersect at .....

A. 60°

B. 90°

C. 110°

D. 80°

Answer:

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48. A line segment of length 7.8 cm is bisected then the length of each part is _____ cm.

A. 7.4

B. 3.8

C. 7.8

D. 3.9

Answer:

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49. In the parallelogram ABCD the area of $\triangle ABC$ is 10 sq.cm then the area of ABCD= _____sq. cm

A. 15

B. 40

C. 20

D. 10

Answer:

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50. Identify acute angle from the following.

A. 60°

B. 180°

C. 90°

D. 210°

Answer:

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51. Angles like $0^\circ, 30^\circ, 45^\circ, 60^\circ, 90^\circ, 120^\circ$ and 180° are called ___ angles.

A. Dependant

B. Standard

C. Equal

D. Perpendicular

Answer:

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52. In the Quadrilateral BELT, $|_B = 80^\circ$, $|_E = 100^\circ, |_L = 120^\circ$ then $|_T$ = _____

A. 90°

B. 40°

C. 70°

D. 60°

Answer:

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53. In Rhombus PQRS $|_{-}P + |Q + |R + |_{S}$ =

A. 180°

B. 300°

C. 360°

D. 190°

Answer:

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54. In a parallelogram _____

A. 0°

B. 10°

C. 60°

D. 90°

Answer:

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55. The side of a Rhombus is 5 cm then the its perimeter is _____ cm.

A. 16

B. 19

C. 10

D. 20

Answer:

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56. In the parallelogram SOAP, $\angle_S = 100^\circ$ then $\angle_A$ =_____

A. 80°

B. 60°

C. 70°

D. 30°

Answer:

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57. The length and breadth of a rectangle is 3 cm and 4 cm then the length of its diagonal is _____ cm.

A. 9

B. 10

C. 6

D. 5

Answer:

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58. In a parallelogram _____

A. Opposite sides are parallel

B. Diagonals are not equal

C. Sum of adjacent angles is 180°

D. All the above

Answer:

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59. How many pairs of sides are parallel in a Trapezium?

A. 2

B. 1

C. 6

D. 3

Answer:

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60. In a Quadrilateral ABCD, $\angle A + \angle B = 200^\circ$ then $\angle C + \angle D$ = _____

A. 110°

B. 180°

C. 160°

D. 300°

Answer:

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61. Identify kite among the following:

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62. If the diagonals of a Rhombus are equal then it is a _____

A. Kite

B. Rhombus

C. Square

D. None

Answer:

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63. Number of Independent measurements required to construct a Quadrilateral is ____

A. 9

B. 5

C. 6

D. 4

Answer:

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64. Number of Independent measurements required to construct a square is _____

A. 5

B. 6

C. 3

D. 1

Answer:

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65. To construct a rectangle we need _____ independent measurements.

A. 1

B. 2

C. 6

D. 4

Answer:

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66. Opposite angles of a parallelogram are _____

A. Equal

B. Parallel

C. 100°

D. None

Answer:

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67. Diagonals are equal in _____

A. Kite

B. Trapezium

C. Rhombus

D. Square

Answer:

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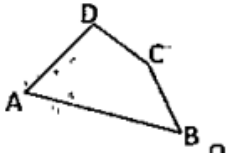
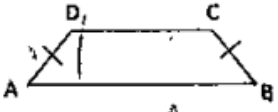
68. Identify Isosceles Trapezium from the following :

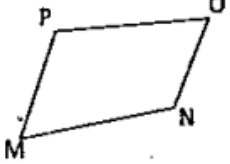
A)



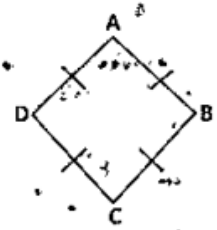
B)



C)



D)



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69. The diagonal AC is drawn in a square ABCD then $\triangle ABC$ is a _____

A. Equilateral

B. Isosceles

C. Scalene

D. None

Answer:

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70. Area of rectangle =.....

A. l + b

B. 2(l + b)

C. l^2b^2

D. lb

Answer:

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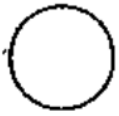
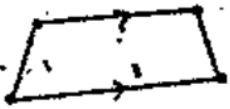
71. Of the following trapezium is

A) 

B) 

C) 

D) 

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72. Of the following, pairs of standard angles are I) $(70^\circ, 20^\circ)$, ii) $(50^\circ, 40^\circ)$, iii) $(30^\circ, 45^\circ)$, iv) $(60^\circ, 90^\circ)$

A. 1 and 2

B. 3 and 4

C. 1 and 4

D. 2 and 3

Answer:

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73. Which of the following, which is not a pair of supplementary angles?

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

B. $(110^\circ, 70^\circ)$

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

D. $(132^\circ, 38^\circ)$

Answer:

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74. Statement A : In a rectangle opposite sides are equal and diagonals are equal. Statement B : In a parallelogram opposite sides are equal and diagonals are equal. Statement C : In a

rhombus all the sides are equal and diagonals are not equal. Which of the following is true?

A. A – true, B – true, C – true

B. A – true, B – true, C – false

C. A – true, B – false, C – true

D. A – false, B – true, C – true

Answer:

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