

4. Practical Geometry

Q 1 Name the quadrilateral whose opposite sides are parallel.

Mark (1)

Q 2 Name the quadrilateral whose diagonals are equal and bisect each other at right angle.

Mark (1)

Q 3 Why do we call square as a regular quadrilateral?

Mark (1)

Q 4 Construct the quadrilateral ABCD in which $AB = 5$ cm, $BC = 4$ cm, $\angle A = 60^\circ$, $\angle B = 105^\circ$ and $\angle C = 105^\circ$.

Marks (2)

Q 5 The adjacent sides SP and PQ of a parallelogram PQRS are 4 cm each. State the measure of all the sides. What is another name of this figure?

Marks (2)

Q 6 The ratio of two adjacent sides of a parallelogram is 4:5. If its perimeter is 72 cm, find its adjacent sides.

Marks (2)

Q 7 The park in a town is made in the form of a kite. Its perimeter is 90 metres and one side is 10m more than other side. What are the lengths of other sides?

Marks (2)

Q 8 Construct the trapezium ABCD in which $AB \parallel CD$, $AB = 8$ cm, $BC = 6$ cm, $CD = 4$ cm and $\angle B = 60^\circ$.

Marks (3)

Q 9 Construct the quadrilateral ABCD in which $AB = 4.5$ cm, $BC = 5.5$ cm, $CD = 4$ cm, $AD = 6$ cm and $AC = 7$ cm.

Marks (3)

Q 10 Construct the quadrilateral PQRS where $PQ = 4$ cm, $QR = 6$ cm, $RS = 5$ cm, $PS = 5.5$ cm and $PR = 7$ cm.

Marks (3)

Q 11

Construct Quadrilateral ABCD in which $AB = 3.5$ cm, $BC = 4$ cm, $CD = 5$ cm, $\angle B = 45^\circ$ and $\angle C = 150^\circ$.

Marks (3)

Q 12 Construct the quadrilateral TRUE in which $TR = 3.5$ cm, $RU = 3$ cm, $UE = 4$ cm, $\angle R = 75^\circ$ and $\angle U = 120^\circ$.

Marks (3)

Q 13 Construct the parallelogram ABCD with $AB = 3.5$ cm, $BC = 4$ cm and $AC = 6.5$ cm.

Marks (3)

Q 14 Construct a rhombus with side 4.5 cm and one diagonal 6 cm.

Marks (3)

Q 15 Construct the quadrilateral ABCD with AB = 4 cm, BC = 6 cm, CD = 5.5 cm, AD = 5 cm and AC = 8 cm.

Marks (3)

Q 16 Construct the quadrilateral HOPE with HO = 4.5 cm, OP = 4 cm, PE = 6.5 cm, EH = 3 cm and OE = 6.5 cm.

Marks (3)

Q 17 Construct the quadrilateral PQRS in which PQ = 4 cm, QR = 3 cm, PS = 2.5 cm, PR = 4.5 cm and QS = 4 cm.

Marks (3)

Q 18 ABCD is a trapezium with $AB \parallel CD$, and $\angle A = 50^\circ$ and $\angle B = 50^\circ$. Prove that

(i) $BC = DA$

(ii) $\angle C = \angle D$ and find the measurement of $\angle C$.

Marks (4)

Q 19 The perimeter of a parallelogram is 140 cm. If one of the sides is greater than the other by 20 cm, find the lengths of all the sides of the parallelogram.

Marks (4)

Q 20 ABCD is a trapezium in which $AB \parallel DC$ and $AD = BC$. If CE is drawn parallel to AD, meeting AB at E, prove the following:

(i) AECD is a parallelogram.

(ii) $AD = EC$

(iii) $\triangle CEB$ is an isosceles triangle.

Marks (4)

Q 21 Construct the square READ with RE = 5.1 cm.

Marks (5)

Q 22 Construct a rhombus ABCD where AC = 5.2 cm and BD = 6.4 cm.

Marks (5)

Q 23 Construct a rectangle ABCD with AB = 5 cm and BC = 4 cm.

Marks (5)

Q 24 Construct a quadrilateral ABCD in which AB = 6 cm, BC = 5 cm, $\angle A = 55^\circ$, $\angle B = 110^\circ$ and $\angle D = 90^\circ$.

Marks (5)

Most Important Questions

Q 1 Is it possible to construct a quadrilateral ABCD in which AB = 3cm, CD = 3cm, DA = 7.5cm, AC = 8cm and BD = 4cm? If not, give reason.

Q 2 Is it possible to construct a quadrilateral ABCD in which $AB = 5\text{cm}$, $BC = 7.5\text{cm}$,

$\angle A = 80^\circ$, $\angle B = 140^\circ$, $\angle C = 145^\circ$? If not, give reason.

Q 3 Construct a quadrilateral ABCD in which $AB=4.4\text{cm}$, $BC=4\text{cm}$, $CD=6.4\text{cm}$, $DA=2.8\text{cm}$ and $BD=6.6\text{cm}$?

Q 4 Construct a parallelogram ABCD where $AB=3.6\text{cm}$, $BC=4.2\text{cm}$ and $AC=6.5\text{cm}$?

Q 5 Construct a rhombus with side 4.5cm and one diagonal 6cm .

Q 6 Construct a quadrilateral ABCD in which $AB = 5\text{cm}$, $BC = 4\text{cm}$, $AD = 3\text{cm}$, $CD = 6\text{cm}$ and $BD = 5\text{cm}$.

Q 7 Construct a quadrilateral ABCD in which $AB = BC = 3\text{cm}$, $AD = 5\text{cm}$, $A = 90^\circ$ and $B = 105^\circ$.

Q 8 Construct a rectangle with sides 4.5cm and 6cm .

Q 9 Construct a quadrilateral ABCD in which $AB = 7\text{cm}$, $AD = 6\text{cm}$, $AC = 7\text{cm}$, $BD = 7.5\text{cm}$ and $BC = 5\text{cm}$.

Q 10 Construct a quadrilateral ABCD in which $AB = 5.5\text{ cm}$, $AD = 4.4\text{ cm}$, $CD = 6.5\text{ cm}$, $AC = 6.5\text{ cm}$ and $BD = 7.1\text{ cm}$?

Q 11 Construct a quadrilateral ABCD in which $AB=5.4\text{cm}$, $BC=2.5\text{cm}$, $CD=4\text{cm}$, $AC=6.5\text{cm}$ and $BD=5\text{cm}$?

Q 12 Construct a quadrilateral ABCD in which $AB = 6\text{ cm}$, $BC = 5\text{ cm}$, $\angle A = 55^\circ$, $\angle B = 110^\circ$ and $\angle D = 90^\circ$.

Q 13 Construct a quadrilateral PQRS in which $\angle Q = 45^\circ$, $\angle R = 90^\circ$,
 $QR = 5\text{cm}$, $PQ = 4\text{cm}$ and $RS = 3\text{ cm}$.

Q 14 Construct a quadrilateral ABCD in which $AB=3.6\text{cm}$, $BC=5.5\text{cm}$, $CD=5\text{cm}$, angle $B=125$ and angle $C=80$?

Q 15 Construct a quadrilateral ABCD in which $AB=5.1\text{cm}$, $AD=4\text{cm}$, $BC=2.5\text{cm}$, angle $A=60$ and angle $B=85$?

Q 16 Construct a quadrilateral ABCD in which $AB=3.5\text{cm}$, $BC=6.5\text{cm}$, $\angle A=75^\circ$ and $\angle B=105^\circ$ and $\angle C=120^\circ$?

Q 17 Construct a quadrilateral ABCD in which $AB=5.3\text{ cm}$, $AD = 2.9\text{ cm}$, $\angle A=70^\circ$ and $\angle B = 95^\circ$ and $\angle C = 85^\circ$?

Q 18 Construct a quadrilateral in which $QR = 7.5\text{ cm}$, $RP = PS = 6\text{ cm}$, $RS = 5\text{ cm}$ and $QS = 10\text{ cm}$.

Q 19 Construct a trapezium ABCD in which $AB \parallel CD$, $AB = 8\text{ cm}$, $BC = 6.0\text{ cm}$ and $CD = 4\text{ cm}$ and $\angle B = 60^\circ$.

Q 20 Construct a parallelogram whose two sides and one angle are 4 cm , 5.5 cm and 70° respectively.