

NCERT SOLUTIONS CLASS-8 MATHS

CHAPTER-3 EXERCISE-3.4

1. State whether the following questions given below are True or False.

- (a) All rectangles are squares.
- (b) All rhombuses are parallelograms.
- (c) All squares are rhombuses and also rectangles.
- (d) All squares are not parallelograms.
- (e) All kites are rhombuses.
- (f) All rhombuses are kites.
- (g) All parallelograms are trapeziums.
- (h) All squares are trapeziums.

Answer

- (a) False. All square are rectangles but all rectangles are not square.
- (b) True
- (c) True
- (d) False. All squares are parallelograms as opposite sides are parallel and opposite angles are equal.
- (e) False. A kite doesn't have all sides of same length.
- (f) True
- (g) True
- (h) True



2. Identify all the quadrilaterals that have.

- (a) four sides of equal length
- (b) four right angles

Answer

- (a) Rhombus and square have four sides of equal length.
- (b) Square and rectangle have four right angles.

3. Explain how a square is.

- (i) a quadrilateral
- (ii) a parallelogram
- (iii) a rhombus
- (iv) a rectangle

Answer

- (i) Square is a quadrilateral because it has four sides.
- (ii) Square is a parallelooram because its opposite sides are parallel and ooposite anoles are equal.

(iii) Square is a rhombus because all four sides are of equal length and diagonals bisect at right angles.

(iv) Square is a rectangle because its interior angle is 90°

4. Name the quadrilaterals whose diagonals are equal to each other.

(i) bisect each other

(ii) are perpendicular bisectors of each other

(iii) are equal

Answer

(i) Parallelogram, Rhombus, Square and Rectangle

(ii) Rhombus and Square

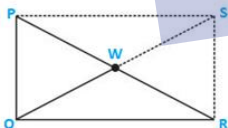
(iii) Rectangle and Square

5. Explain why a rectangle is a convex quadrilateral.

Answer

Rectangle is a convex quadrilateral because its both diagonals lie inside the rectangle.

6. PQR is a right-angled triangle and W is the midpoint of the side opposite to the right angle. Explain why W is equidistant from P, Q and R. (The dotted lines are drawn additionally to help you).



Answer

PS and SR are drawn so that $PS \parallel QR$ and $PQ \parallel SR$

$PS = QR$ and $PQ = SR$

ABCD is a rectangle as opposite sides are equal and parallel to each other and all the interior angles are of 90° .

In a rectangle, diagonals are of equal length and also bisect each other.

Hence, $PW = WR = QW = WS$

Thus, W is equidistant from P, Q and R.