

NCERT solution Quadrilaterals Exercise 3

Question 1

State whether 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 squares are rectangles but all rectangles are not squares
- b) True
- c) True
- d) False
- e) False
- f) True
- g) True
- h) True

Question 2

Identify all the quadrilaterals that have

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

Answer

- a) Square and Rhombus
- b) Squares, rectangles

Question 3

Explain how a square is.

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

Answer

- i) Square is quadrilateral as it has four sides
- ii) A square is parallelogram as opposite's sides are parallel to each other
- iii) A square is rhombus as it has four sides equal
- iv) A square is rectangles since each interior angles is 90°

Question 4

Name the quadrilaterals whose diagonals.

- (i) Bisect each other
- (ii) are perpendicular bisectors of each other?
- (iii) are equal

Answer

- i) The diagonals of parallelogram, square, rectangles ,rhombus bisect each other
- ii) The diagonals of rhombus and square are perpendicular bisector of each other

Question

Explain why a rectangle is a convex quadrilateral.

Answer

A rectangles has two diagonals and both are in the interior, hence it is convex quadrilaterals