CHAPTER – 5

Understanding Elementary Shapes

EXERCISE – 5.7

Q.1

Say True or False:
(a) Each angle of a rectangle is a right angle.
(b) The opposite sides of a rectangle are equal in length.
(c) The diagonals of a square are perpendicular to one another.
(d) All the sides of a rhombus are of equal length.
(e) All the sides of a parallelogram are of equal length.
(f) The opposite sides of a trapezium are parallel.

Answer:

(a) True.

As a square has all the sides of same length and all the interior angles of 90° which is also known as a right angle.

(b) True

It is a property of a rectangle that it has all the sides' equals to each other.

(c) True

A square is a special kind of rectangle which has all the angles of 90° and opposite side are equals to each other. So yes the diagonals of a square are perpendicular to one another.

(d) True

A rhombus is a quadrilateral with all sides of equal length.

(e) False

A parallelogram has two pairs of equal and parallel sides.

(f) False

A trapezium is a quadrilateral with one pair of parallel sides.

Q. 2

Give a reason for the following:
(a) A square can be thought of as a special rectangle.
(b) A rectangle can be thought of as a special parallelogram.
(c) A square can be thought of as a special rhombus.
(d) Squares, rectangles, parallelograms are all quadrilaterals.
(e) Square is also a parallelogram.

Answer:

(a) Yes, a square is a special rectangle, as a rectangle has its all angle of 90° and opposite sides are equals to each other. In the case of a square, all the angles are also 90° and it has all the sides' equals to each other.

(b)

(b) A rectangle has its all angles of 90° and opposite sides are equals and parallel to each other. A parallelogram also has opposite sides equal and parallel to each other. So we can say that a parallelogram with each angle a right angle becomes a rectangle and this rectangle can be thought of as a special parallelogram.

(c) All side of a rhombus are equal and a square also has all sides' equals to each other with all the interior angles of 90°. A rhombus with each angle a right angle becomes a square. So, a square can be seen as a special rhombus.

(d) Squares, rectangles, parallelograms are all quadrilaterals as all of them have 4 line segments and all are closed figures.

(e) In a parallelogram opposite sides are equal and parallel and in a square opposite side are equal and all the sides have same length so yes a square can be seen as a special parallelogram.

Q. 3

A figure is said to be regular, if its sides are equal in length and angles are equal in measure. Can you identify the regular quadrilateral?

Answer:

In a square all the interior angle is of 90° and all the sides are of same length. Therefore, a square is a regular quadrilateral.