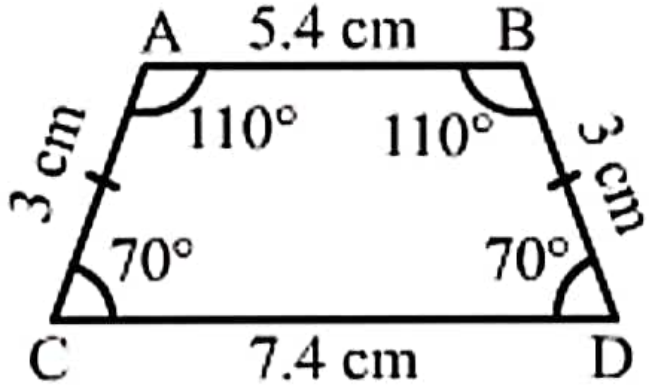
Name each of the following parallelograms:
(i) The diagonals are equal and the adjacent sides are unequal.
(ii) The diagonals are equal and the adjacent sides are equal.
(iii) The diagonals are unequal and the adjacent sides are equal.

ANSWER:

(i) Rectangle
(ii) Square
(iii) Rhombus

What is a trapezium? When do you call a trapezium an isosceles trapezium?
Draw an isosceles trapezium. Measure its sides and angles.

ANSWER:



A trapezium has only one pair of parallel sides.
A trapezium is said to be an isosceles trapezium if its non-parallel sides are equal.
Following are the measures of the isosceles trapezium:
AB = 5.4 cm
BC = 3 cm
DC = 7.4 cm
AD = 3 cm

$$\angle A = \angle B = 110^\circ$$
$$\angle D = \angle C = 70^\circ$$

Which of the following statements are true and which are false?
(a) The diagonals of a parallelogram are equal.
(b) The diagonals of a rectangle are perpendicular to each other.
(c) The diagonals of a rhombus are equal.

ANSWER:

(a) False
(b) False
(c) False

Give reasons for the following:
(a) A square can be thought of as a special rectangle.
(b) A square can be thought of as a special rhombus.
(c) A rectangle can be thought of as a special parallelogram.
(d) a square is also a parallelogram.

ANSWER:

(a) This is because a rectangle with equal sides becomes a square.
(b) This is because a rhombus with each angle a right angle becomes a square.
(c) This is because a parallelogram with each angle a right angle becomes a rectangle.
(d) This is because in a square opposite sides are parallel.