

## CBSE Grade 8

### Understanding Quardilaterals

Q1) Fill in the blank:

- The number of pairs of adjacent angles in a quardilateral is \_\_\_\_\_
- The number of pairs of opposite angles in a quardilateral is \_\_\_\_\_
- Measure of each angle in a convex quardilateral is \_\_\_\_  $180^\circ$
- Diagonals of square are \_\_\_\_\_ of each other.
- Diagonals of Rhombus are \_\_\_\_\_ of each other.

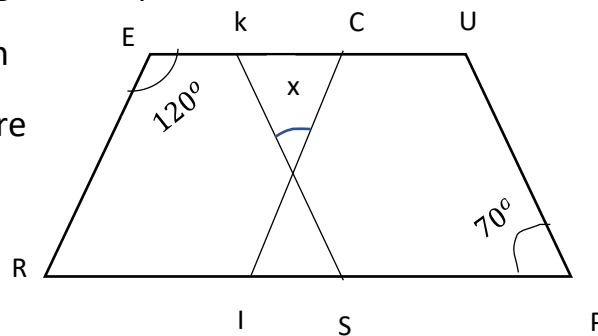
Q2) How many sides has a regular polygon, each angle of which is of measure 108.

Q3) Prove that the interior angle of a regular pentagon is three times the exterior angle of a regular decagon.

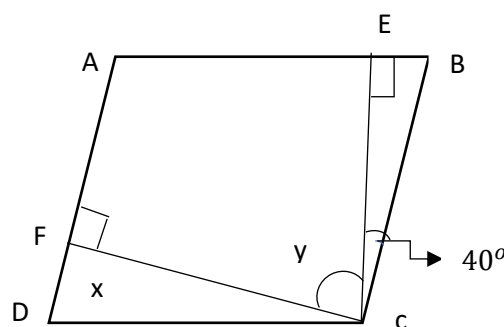
Q4) The four angles of a quardilateral is in ratio 3:5:7:9. Find the angles.

Q5) Find x, When

RICE and Spuk are parallelogram.



Q6) Find x and y



Q7) Explain how

- All Square are Rectangle
- All parallelograms are Trapezium



## Solutions

Sol.1) a) 4    b) 4    c) less than  $180^\circ$  d) perpendicular bisector  
e) perpendicular bisector

Sol. 2) 5

$$\frac{(n-2)180}{n} = 108, n = 5$$

Sol. 3) Measure of Interior angles of Pentagon =  $\frac{(5-2)180}{5} = 108$

$$\text{Measure of exerior angles of Decagon} = \frac{360}{10} = 36$$

$36 \times 3 = 108$ , Hence proved.

Sol. 4)  $45^\circ, 75^\circ, 105^\circ, 135^\circ$

$$\text{Given, } 3x + 5x + 7x + 9x = 360$$

$$\therefore 24x = 360, \quad x = 15$$

Required angles =  $45^\circ, 75^\circ, 105^\circ, 135^\circ$

Sol.5)  $\angle K = 70^\circ, \angle C = 60^\circ \therefore RICE \text{ and } SPUK \text{ are parallelogram.}$

$\therefore \angle x = 50^\circ$  By angle sum property.

Sol. 6)  $x = 50^\circ \quad Y = 50^\circ$

Sol. 7) a) As Square has all the properties of Rectangle i.e.- all angles right angled, opposite sides are equal and parallel hence it is a rectangle. As its all sides are also equal so it is a special rectangle.

b) A parallelogram has all the properties of Trapezium. i.e.- one pair of parallel opposite sides, Diagonals are perpendicular to each other, so it is a trapezium. As in addition it has both the pair of opposite sides parallel hence it is a special trapezium.

