UNDERSTANDING QUADRILATERALS

SUM OF THE MEASURES OF THE EXTERIOR ANGLES OF A POLYGON

EXERCISE

Q.1 Find the measure of each exterior angle of a regular polygon having 15 sides.

Q.2 Find the measure of each interior angle of a regular polygon having 12 sides.

Q.3 Find the number of sides of a polygon, the sum of whose interior angles is 1620°.

Q.4 The sides of a pentagon are produced in order and the exterior angles so obtained are of measure x°, (2x)°, (3x+10)°, (4x+5)° and (5x)° respectively. Find the value of x and the measure of each exterior angle of the pentagon.

Q.5 If each interior angle of a regular polygon is 144°, how many sides does this polygon have?

Q.6 Find the measure of x in the figure(a).

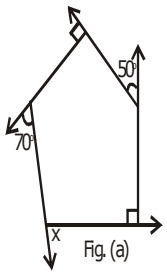

Fig. (a)

Q.7 Find the measure of x in the figure (b).

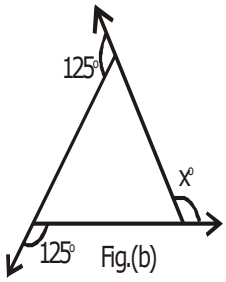

Fig.(b)

Q.8 The ratio of each exterior angle to each interior angle of a regular polygon is 2 : 3. Find the number of sides in the polygon.

Q.9 Each interior angle of a regular polygon is 140°. Find the interior angle of a regular polygon which has double the number of sides as the first polygon.

ANSWER KEY

1. 24°

2. 150°

3. 11

4. x = 23,

first angle = 23°,

second angle = 46°,

third angle = 79°,

fourth angle = 97°,

fifth angle = 115°

5. 10 sides

6. 360°—310° = 50°

7. x = 110°

8. 5

9. 160°