

**MATHEMATICS**  
**CLASS VIII**  
**SA-1**  
**Assignment No. 6**  
**Ch 11 Understanding Shapes**

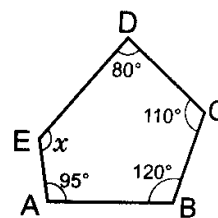
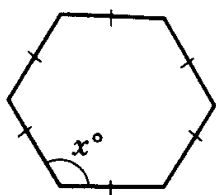
1. Tick the correct alternative :
  - i. Number of diagonals, a regular hexagon has
 

|      |      |      |      |
|------|------|------|------|
| a) 4 | b) 5 | c) 8 | d) 9 |
|------|------|------|------|
  - ii. A regular polygon has 24 sides. The measure of its interior angles is
 

|               |               |                |                |
|---------------|---------------|----------------|----------------|
| a) $15^\circ$ | b) $30^\circ$ | c) $150^\circ$ | d) $165^\circ$ |
|---------------|---------------|----------------|----------------|
  - iii. Two adjacent angles of a parallelogram are in the ratio 2 : 3. Then these angles are
 

|                          |                          |                          |                          |
|--------------------------|--------------------------|--------------------------|--------------------------|
| a) $72^\circ, 108^\circ$ | b) $60^\circ, 120^\circ$ | c) $40^\circ, 140^\circ$ | d) $65^\circ, 115^\circ$ |
|--------------------------|--------------------------|--------------------------|--------------------------|
  - iv. In a quadrilateral TYPE, if  $TY = TE$  and  $YP = PE$ , then it is
 

|                  |         |              |           |
|------------------|---------|--------------|-----------|
| a) parallelogram | b) kite | c) rectangle | d) square |
|------------------|---------|--------------|-----------|
2. Three angles of a quadrilateral are equal and the fourth angle measures  $135^\circ$ . Find the measure of equal angles.
3. The angles of a quadrilateral are in the ratio 1:2:3:4. Find each angle.
4. The sum of the opposite angles of a parallelogram is  $150^\circ$ . Find the angles of the parallelogram.
5. In a parallelogram PORS
  - i.  $\angle P = (2x + 10)^\circ$ ,  $\angle R = (3x - 20)^\circ$ . Find the value of  $x$ .
  - ii.  $\angle R = (5y)^\circ$ ,  $\angle S = (2x + 19)^\circ$ . Find the value of  $y$ .
6. Two adjacent sides of a parallelogram have lengths 5 cm and 4 cm. Find the perimeter of the parallelogram.
7. Find the length of the diagonal of a rectangle whose sides are 4 cm and 3 cm.
8. The sides of a rectangle are in the ratio 4:5. Find its sides if the perimeter is 90 cm.
9. Find the value of  $x$  in each of the following cases.



10. The measures of two adjacent angles of a quadrilateral  $122^\circ$  and  $38^\circ$ . The other two angles are equal. Find them.
11. One angle of a quadrilateral is  $108^\circ$ . The other three angles are in the ratio 3 : 4 : 5. Find these angles.
12. Find the number of sides of a regular polygon whose exterior angles measures  $40^\circ$ .
13. Find the number of sides of a regular polygon whose each angle measures  $144^\circ$ .
14. In a parallelogram RICE,  $\angle R = (3x - 1)^\circ$  and  $\angle C = (50 - x)^\circ$ . Find  $x$  and all the angles of the parallelogram.
15. The sum of two opposite angles of a parallelogram is  $140^\circ$ . Find all the angles of the parallelogram.
16. PEST is a rectangle whose diagonals meet at O. If  $OT = 5x + 3$  and  $PO = 3x + 7$ , find  $x$ .