

Maharashtra Board Solutions Class 6-Maths (Practice Set 38): Chapter 16- Quadrilaterals



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Maharashtra Board Solutions Class 6-Maths (Practice Set 38): Chapter 16- Quadrilaterals

Class 6: Maths Chapter 16 solutions. Complete Class 6 Maths Chapter 16 Notes.

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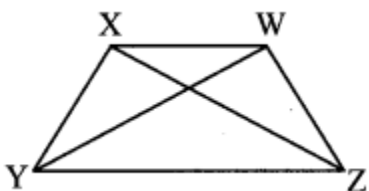
Maharashtra Board 6th Maths Chapter 16, Class 6 Maths Chapter 16 solutions

Question 1.

Draw $\square XYZW$ and answer the following:

- The pairs of opposite angles.
- The pairs of opposite sides.
- The pairs of adjacent sides.
- The pairs of adjacent angles.
- The diagonals of the quadrilateral.
- The name of the quadrilateral in different ways.

Solution:



- i. a. $\angle XYZ$ and $\angle XWZ$

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- b. $\angle YXW$ and $\angle YZW$
- ii. a. side XY and side WZ
- b. side XW and side YZ
- iii. a. side XY and side XW
- b. side WX and side WZ
- c. side ZW and side ZY
- d. side YZ and side YX
- iv. a. $\angle XYZ$ and $\angle YZW$
- b. $\angle YZW$ and $\angle ZWX$
- c. $\angle ZWX$ and $\angle WXY$
- d. $\angle WXY$ and $\angle XYZ$
- v. Seg XZ and seg YW
- vi. $\overleftrightarrow{XYZW}$
- $\overleftrightarrow{YZWX}$
- $\overleftrightarrow{ZWXY}$
- $\overleftrightarrow{WXYZ}$
- $\overleftrightarrow{XWZY}$
- $\overleftrightarrow{WZYX}$
- $\overleftrightarrow{ZYXW}$
- $\overleftrightarrow{YXWZ}$

Question 2.

In the table below, write the number of sides the polygon has.

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Names	Quadrilateral	Octagon	Pentagon	Heptagon	Hexagon
		n	n	n	
Number of sides					

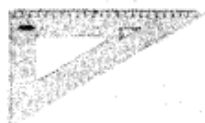
Solution:

Names	Quadrilateral	Octagon	Pentagon	Heptagon	Hexagon
		n	n	n	
Number of sides	4	8	5	7	6

Question 3.

Look for examples of polygons in your surroundings. Draw them.

Solution:



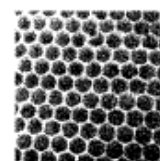
Set square
(Triangle)



Flag
(Rectangle)



Cross section of
Lady finger
(Pentagon)



Honey comb chamber
(Hexagon)

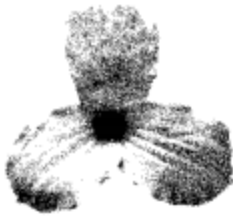
Question 4.

We see polygons when we join the tips of the petals of various flowers. Draw these polygons and write down the number of sides of each polygon.

Solution:

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i.

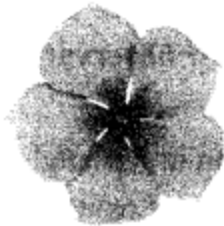


White trillium

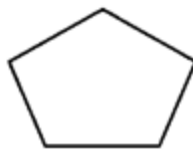


Triangle

ii.



Periwinkle



Pentagon

iii.



Morning meadow



Quadrilateral

iv.



Lily

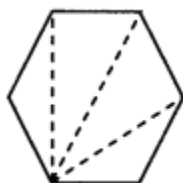


Hexagon

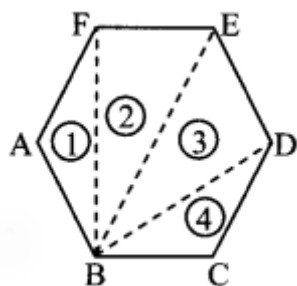
Question 5.

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Draw any polygon and divide it into triangular parts as shown here. Thus work out the sum of the measures of the angles of the polygon.



Solution:



Hexagon ABCDEF can be divided in 4 triangles namely $\triangle BAF$, $\triangle BFE$, $\triangle BED$ and $\triangle BCD$

Sum of the measures of the angles of a triangle = 180°

$\therefore$ Sum of measures of the angles of the polygon ABCDEF = Sum of the measures of all the four triangles

$$= 180^\circ + 180^\circ + 180^\circ + 180^\circ$$

$$= 720^\circ$$

$\therefore$ The sum of the measures of the angles of the given polygon (hexagon) is 720° .

Questions and Activities

Question 1.

From your compass boxes, collect set squares of the same shapes and place them side by side in all possible different ways. What figures do you get? Write their names.
(Textbook pg. no. 85)

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- a. Two set squares
- b. Three set squares
- c. four set squares

Solution:

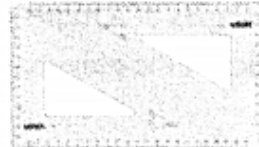
- a. Two set squares



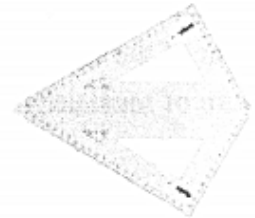
Square



Quadrilateral

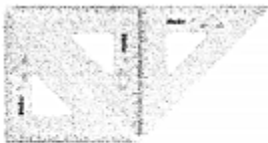


Rectangle

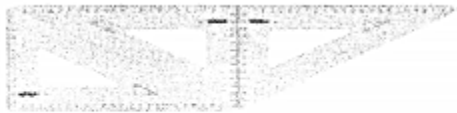


Quadrilateral

- b. Three set squares



Quadrilateral

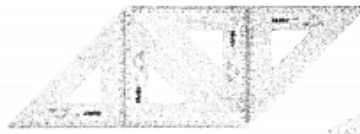


Quadrilateral

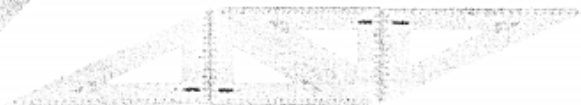
- c. four set squares



Rectangle



Quadrilateral



Quadrilateral

Question 2.

Kaprekar Number. (Textbook pg. no. 86)

- i. Take any 4-digit number in which all the digits are not the same.

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- ii. Obtain a new 4-digit number by arranging the digits in descending order.
- iii. Obtain another 4-digit number by arranging the digits of the new number in ascending order.
- iv. Subtract the smaller of these two new numbers from the bigger number. The difference obtained will be a 4-digit number. If it is a 3-digit number, put a 0 in the thousands place. Repeat the above steps with the difference obtained as a result of the subtraction.
- v. After some repetitions, you will get the number 6174. If you continue to repeat the same steps you will get the number 6174 every time. Let us begin with the number 8531.

8531 → 7173 → 6354 → 3087 → 8352 → 6174 → 6174

This discovery was made by the mathematician, Dattatreya Ramchandra Kaprekar. That is why the number 6174 was named the Kaprekar number.

Solution:

Step 1:	Step 2:	Step 3:	Step 4:	Step 5:	Step 6:
8531	7731	6543	8730	8532	7641
- 1358	- 1377	- 3456	- 0378	- 2358	- 1467
7173	6354	3087	8352	6174	6174



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About About Maharashtra State Board (MSBSHSE)

The Maharashtra State Board of Secondary and Higher Secondary Education or MSBSHSE (Marathi: महाराष्ट्र राज्य माध्यमिक आणि उच्च माध्यमिक शिक्षण मंडळ), is an **autonomous and statutory body established in 1965**. The board was amended in the year 1977 under the provisions of the Maharashtra Act No. 41 of 1965.

The Maharashtra State Board of Secondary & Higher Secondary Education (MSBSHSE), Pune is an independent body of the Maharashtra Government. There are more than 1.4 million students that appear in the examination every year. The Maha State Board conducts the board examination twice a year. This board conducts the examination for SSC and HSC.

The Maharashtra government established the Maharashtra State Bureau of Textbook Production and Curriculum Research, also commonly referred to as Ebalbharati, in 1967 to take up the responsibility of providing quality textbooks to students from all classes studying under the Maharashtra State Board. MSBHSE prepares and updates the curriculum to provide holistic development for students. It is designed to tackle the difficulty in understanding the concepts with simple language with simple illustrations. Every year around 10 lakh students are enrolled in schools that are affiliated with the Maharashtra State Board.

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How many state boards are there in Maharashtra?

The Maharashtra State Board of Secondary & Higher Secondary Education, conducts the HSC and SSC Examinations in the state of Maharashtra through its nine Divisional Boards located at Pune, Mumbai, Aurangabad, Nasik, Kolhapur, Amravati, Latur, Nagpur and Ratnagiri.

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