



INDIAN SCHOOL NIZWA- WORKSHEET

Chapter 4 Quadrilaterals (New Textbook)

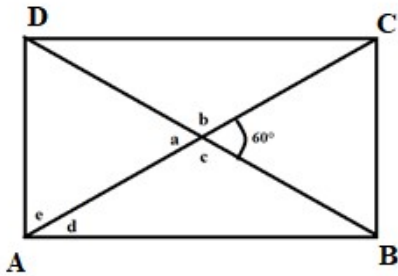
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Class :VIII Sec: _____

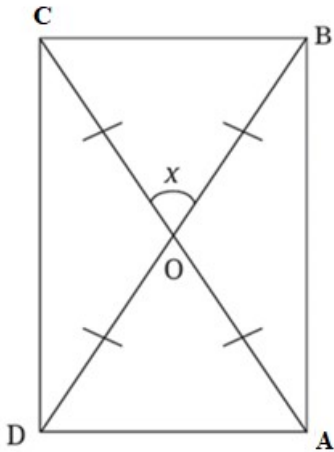
Multiple choice questions

- The sum of all interior angles of a quadrilateral is:
 - 90°
 - 180°
 - 270°
 - 360°
- In a rhombus, diagonals:
 - Are equal and bisect each other
 - Are unequal and do not bisect each other
 - Bisect each other at 90°
 - None of these
- Which of the following quadrilaterals has diagonals equal and bisecting each other?
 - Rhombus
 - Rectangle
 - Parallelogram
 - Kite
- In a parallelogram PQRS, if $\angle P = 70^\circ$, then $\angle R =$ _____.
 - 70°
 - 110°
 - 90°
 - 180°
- Assertion (A): The diagonals of a rhombus are always perpendicular to each other.
Reason (R): A rhombus is a parallelogram with all sides equal.
 - Both A and R are true, and R is the correct explanation of A.
 - Both A and R are true, but R is not the correct explanation of A.
 - A is true, but R is false.
 - A is false, but R is true.
- Assertion (A): Every rectangle is a parallelogram.
Reason (R): The diagonals of a rectangle bisect each other at right angles.
 - Both A and R are true and R is the correct explanation of A
 - Both A and R are true but R is not the correct explanation of A
 - A is true but R is false
 - A is false but R is true

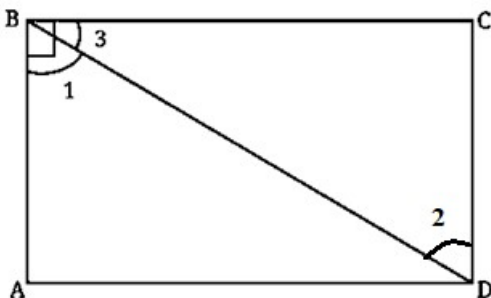
7. ABCD is a rectangle. If the angle between the diagonals is 60° as shown in the given figure, answer the following questions.
- Find the angles a, b, c.
 - In $\triangle AOD$, if $OA = OD$, then find the value of d.
 - What is the measure of angle e?
 - $\triangle AOD$ is called a/an ----- triangle.



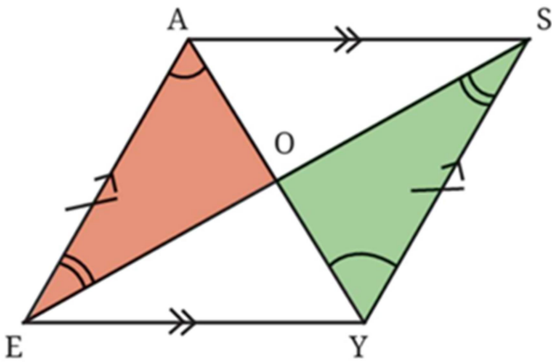
8. ABCD is a rectangle with diagonals of equal length and $\angle COB = x$
- What is the measure of $\angle BOA$?
 - Is $\angle BOA = \angle COD$? Why?
 - What is the measure of $\angle OCB$ and $\angle OAB$?



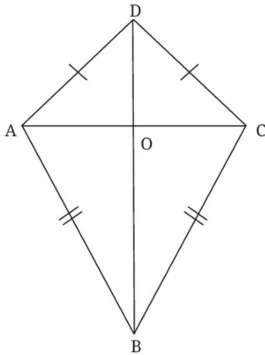
9. ABCD is a rectangle and BD is a diagonal.
- What can you say about $\angle 1$ and $\angle 2$?
 - Is $\triangle DAB \cong \triangle BCD$. If so, state the congruency



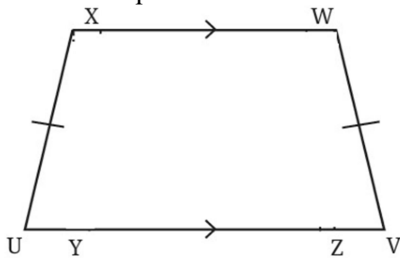
- Show that the sum of all the angles in any quadrilateral is 360° .
- Draw a parallelogram with adjacent sides of length 4 cm and 5 cm and an angle of 30° between them
- Given parallelogram EASY, prove that $\triangle AOE \cong \triangle YOS$ and hence deduce that the diagonals are bisected at O. Also verify if $\triangle AOE \cong \triangle YOS$ can be written as $\triangle AOE \cong \triangle SOY$?



13. Construct a quadrilateral with all sides of equal length and one of its angles as 50° . Name the quadrilateral so formed.
14. Prove that the diagonals of a rhombus bisect each other at 90° .
15. Using a Venn diagram, represent a parallelogram square, a rectangle and rhombus.
16. As shown in the figure, ABCD is a kite with diagonals, AC and BD. Show that
 - a) the diagonal BD bisects $\angle ABC$ and $\angle ADC$.
 - b) the diagonal BD bisects the diagonal AC, that is, $AO = OC$ and is perpendicular to it.
 - c) Is $\triangle AOB \cong \triangle COB$?

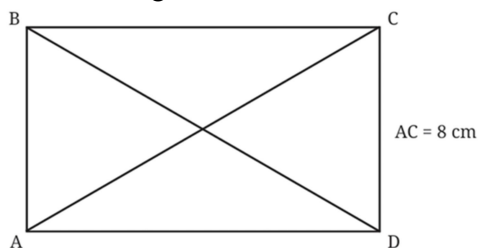


17. Construct an isosceles trapezium UVWX with $UV \parallel XW$.
18. In the given figure, UVWX is an isosceles trapezium, show that $\angle U = \angle V$, that is the angles opposite to equal sides are equal.



19. **Case study based question:**

A carpenter needs to put together two thin strips of wood, so that when a thread is passed through their end points, it forms a rectangle. If the length of one strip is 8 cm, answer the following questions based on the information given.

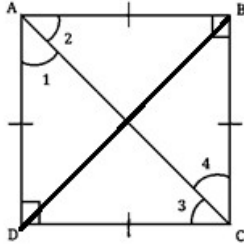


- a) What are the strips called?
- b) What is the point of intersection of the two diagonals?
- c) If $AB = CD$, show that $\triangle ADC \cong \triangle DAB$

- d) What is the length of the other diagonal if $AC = 8$ cm?
 e) Show that the diagonals AC and BD bisect each other at O by proving the congruence $\triangle AOB \cong \triangle COD$.
 OR
 e) Show that the diagonals of a rectangle always intersect at their midpoints.

20. **Case study based question:**

If a carpenter wants to take two wooden strips and pass a thread through their endpoints such that it forms a square, then answer the following questions.



- a) What should be the angle between the two strips?
 b) What are the measures of $\angle 1, \angle 2, \angle 3, \angle 4$?

Revision

Solve the following.

- a) $-3/17 + 5/17$
 b) $56/85 - (-12/85)$
 c) $-19/23 + \underline{\hspace{2cm}} = 22/23$
 d) $345.276 + 87.43$
 e) $984.987 - 345.2$
 f) 45.6×2.3
 g) $732.94 \div 13$
 h) $2130 \div 2.5$
 i) $2y + 54 = 90$
 j) $3x - 89 = 1$