

**Which quadrilaterals are rhombuses? Solve this.**

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In the provided image, quadrilateral (a) is a rhombus.

A rhombus is defined as a quadrilateral where all four sides are of equal length, and opposite angles are equal. In the image:

* **(a)** shows a rhombus because all four sides are equal in length, and it has opposite equal angles.
* **(b)** is a parallelogram but not a rhombus because the sides are not all equal.
* **(c)** is a rectangle, which has equal opposite sides but not all four sides are the same length, so it is not a rhombus.
* **(d)** is a square, which is a special type of rhombus because all sides are equal, and all angles are 90 degrees.

So the answer is **(a)** and **(d)** are rhombuses.

**Which quadrilaterals are rhombuses? Objective: what rhombus is and how to distinguish it.**

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**What is a Rhombus?**

A **rhombus** is a special type of quadrilateral with the following properties:

1. **All four sides are of equal length**.
2. **Opposite angles are equal**.
3. **Opposite sides are parallel**.
4. The diagonals of a rhombus **bisect each other at right angles** (they form 90-degree angles where they cross).
5. The diagonals also bisect the angles of the rhombus.

**How to Distinguish a Rhombus**

To identify a rhombus from other quadrilaterals, look for these characteristics:

1. **All four sides are equal** in length.
2. **The shape is tilted** or rotated, unlike a square, which has equal sides but forms perfect right angles (90 degrees).
3. **Diagonal properties**: If the diagonals intersect at 90 degrees and split the angles into two equal parts, it confirms the shape is a rhombus.

**In the Image You Provided:**

* **(a)** is a **rhombus** because all four sides are equal in length, and the angles are not 90 degrees (indicating a tilt).
* **(b)** is a **parallelogram**, but it is not a rhombus because the sides are not all equal.
* **(c)** is a **rectangle**, not a rhombus, as only the opposite sides are equal, not all four.
* **(d)** is a **square**, which is a special type of rhombus because it has all four sides equal and all angles at 90 degrees.

**Conclusion:**

* **Rhombuses** in the image: (a) and (d).

**Which quadrilaterals are rhombuses? If we know that a rhombus is a quadrilateral whose all four sides are equal in length and opposite sides are parallel to each other, which quadrilaterals are rhombuses?**

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Given that a rhombus is defined as a quadrilateral where **all four sides are equal in length** and **opposite sides are parallel to each other**, let's analyze the quadrilaterals in the image:

1. **Quadrilateral (a)**: This shape has all four sides of equal length and opposite sides parallel, fitting the definition of a rhombus. Therefore, **(a)** is a rhombus.
2. **Quadrilateral (b)**: While the opposite sides are parallel, the sides are not all equal in length. Hence, **(b)** is not a rhombus.
3. **Quadrilateral (c)**: This is a rectangle. The opposite sides are equal and parallel, but not all four sides are equal in length. Therefore, **(c)** is not a rhombus.
4. **Quadrilateral (d)**: This is a square, which is a special type of rhombus because all four sides are equal, and opposite sides are parallel. Therefore, **(d)** is also a rhombus.

**Conclusion:**

The quadrilaterals that are rhombuses are **(a)** and **(d)**.

**Which quadrilaterals are rhombuses? To solve this you need to know that rhombus is a rhombus is a parallelogram and has all the properties of a parallelogram. The lines containing the diagonals of the rhombus are the axes of symmetry Its diagonals are normal and the bisector of its angles.**

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To solve this, let's first understand the properties of a **rhombus**, based on what you mentioned:

* A **rhombus** is a **parallelogram**, meaning it has:
  1. **Opposite sides that are parallel**.
  2. **Opposite angles that are equal**.
* Additional properties specific to a rhombus:
  1. **All four sides are equal**.
  2. Its **diagonals bisect each other at right angles** (90 degrees).
  3. The diagonals are the **bisectors of the angles**.

Now, analyzing the quadrilaterals in the image:

1. **Quadrilateral (a)**:
   * It has all four sides equal and opposite sides parallel.
   * The diagonals bisect each other at right angles and bisect the angles.
   * **(a)** is a **rhombus**.
2. **Quadrilateral (b)**:
   * The opposite sides are parallel, but the sides are not all equal.
   * The diagonals do not bisect each other at right angles.
   * Therefore, **(b)** is **not a rhombus**.
3. **Quadrilateral (c)**:
   * This is a **rectangle** where opposite sides are equal but not all sides are the same.
   * The diagonals bisect each other but do not bisect at 90 degrees.
   * **(c)** is **not a rhombus**.
4. **Quadrilateral (d)**:
   * This is a **square**. Since all sides are equal and the diagonals bisect at right angles, a square is a special type of rhombus.
   * **(d)** is a **rhombus**.

**Conclusion:**

The quadrilaterals that are rhombuses are **(a)** and **(d)**, because they meet all the properties of a rhombus, including equal sides and perpendicular diagonals that bisect the angles.

**Which quadrilaterals are rhombuses? Please solve this step by step.**

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Let's solve this step by step, based on the properties of a rhombus.

**Step 1: Understand the Definition of a Rhombus**

A **rhombus** is a type of quadrilateral that has the following properties:

1. **All four sides are equal in length**.
2. **Opposite sides are parallel** (this also makes it a type of parallelogram).
3. **The diagonals bisect each other at right angles** (90 degrees).
4. **The diagonals bisect the angles** of the rhombus.

**Step 2: Analyze Each Quadrilateral in the Image**

Now let's go through each quadrilateral in the image and check if it matches the properties of a rhombus.

**Quadrilateral (a)**

* It has **four sides of equal length**, so the first property of a rhombus is met.
* The opposite sides are **parallel**.
* This shape looks like the diagonals would bisect each other at right angles, a key feature of a rhombus.
* **Conclusion**: **(a)** is a **rhombus**.

**Quadrilateral (b)**

* The opposite sides are **parallel**, which makes it a **parallelogram**.
* However, **not all four sides are of equal length**. The sides are clearly different in length, so it doesn't meet the first property of a rhombus.
* **Conclusion**: **(b)** is **not a rhombus**.

**Quadrilateral (c)**

* This quadrilateral is a **rectangle**.
* In a rectangle, opposite sides are equal, but **not all four sides are equal**, so it does not satisfy the requirement for equal sides.
* The diagonals of a rectangle bisect each other but **do not bisect at right angles**.
* **Conclusion**: **(c)** is **not a rhombus**.

**Quadrilateral (d)**

* This quadrilateral is a **square**.
* In a square, **all four sides are equal**, and opposite sides are parallel.
* The diagonals of a square bisect each other at right angles and bisect the angles, which meets the definition of a rhombus.
* **Conclusion**: **(d)** is a **rhombus** (specifically, a special type of rhombus where all angles are 90 degrees).

**Step 3: Final Conclusion**

The quadrilaterals that are rhombuses are **(a)** and **(d)** because they both satisfy the properties of a rhombus:

* All sides are equal.
* Opposite sides are parallel.
* The diagonals bisect each other at right angles.

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