

Quadrilateral Worksheet

Name Key

1. A quadrilateral is a figure polygon with 4 sides.

2. Perpendicular means at a right angle or at 90° degrees.

3. Two types of quadrilaterals with right-angled vertices are rectangle and square.

4. A parallelogram has two pairs of sides that are parallel and congruent, and opposite angles that are congruent.

6. A rhombus is a special type of parallelogram because it has 4 equal sides.

9. The quadrilaterals that have diagonals bisecting each other perpendicularly are rhombus, square, and _____.

10. A square is always a rectangle, because a square is a special type of rectangle that has four equal sides.

11. A rectangle is not always a square, because a rectangle does not necessarily have sides that are all congruent.

14. A kite is a quadrilateral that has two pairs of equal length sides and one pair of opposite equal angles.

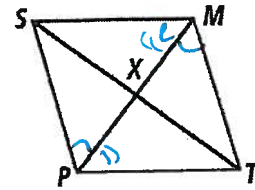
15. A trapezoid is a quadrilateral having one pair(s) of parallel sides.

ALWAYS, SOMETIMES, or NEVER.

- 1. A parallelogram is Always a quadrilateral.
- 2. A rectangle is never a trapezoid.
- 3. A rhombus is always a parallelogram.
- 4. A square is always a quadrilateral.
- 5. A rectangle is sometimes a rhombus. (if ~~a~~ square)
- 6. A rhombus is sometimes a square.
- 7. A trapezoid is sometimes isosceles.
- 8. A rectangle is sometimes a square.
- 9. A square is always a rectangle.
- 10. A trapezoid is never a parallelogram.
- 11. A rectangle always has four right angles.
- 12. A rhombus sometimes has four right angles. (if it's a square)
- 13. A quadrilateral is never a pentagon.
- 14. A parallelogram is sometimes equilateral. (square + rhombus)
- 15. A trapezoid is never equilateral.

State whether the information given about quadrilateral $SMTP$ is sufficient to prove that it is a parallelogram.

1. $\angle SPT \cong \angle SMT$ **no** 2. $\angle SPX \cong \angle TMX, \angle TPX \cong \angle SMX$ **yes, with AIA**
3. $\overline{SM} \cong \overline{PT}, \overline{SP} \cong \overline{MT}$ **yes** 4. $\overline{SX} \cong \overline{XT}, \overline{SM} \cong \overline{PT}$ **NO**
5. $\overline{PX} \cong \overline{MX}, \overline{SX} \cong \overline{TX}$ **yes** 6. $\overline{SP} \cong \overline{MT}, \overline{SP} \parallel \overline{MT}$ **yes**



Classify each quadrilateral by its most precise name.

5. **parallelogram**
6. **rectangle**
7. **isosceles trapezoid**
8. **rhombus**
9. **trapezoid**
10. **kite**
11. **rectangle**
12. **square**

Decide whether the quadrilateral is a parallelogram. Explain your answer.

13. **yes, diagonals bisect**
14. **No, Not enough**
15. **Not enough**
16. **yes, opp sides \cong**
17. **yes, AIA**
18. **Not enough**
19. **one set of yes, opp sides \parallel & \cong**
20. **Not enough**

Answer the following exercises *All, Some, or No.*

1. **Some** rectangles are squares.
2. **NO** isosceles trapezoids are parallelograms.
3. **some** trapezoids are isosceles trapezoids.
4. **All** rhombuses are quadrilaterals.
5. **NO** kites are parallelograms.
6. **SOME** rhombuses are squares.
7. **NO** squares are triangles.
8. **some** rectangles are regular quadrilaterals.
9. **All** squares are quadrilaterals, rectangles, rhombuses, and parallelograms.
10. **some** quadrilaterals have four congruent angles.
11. **some** rectangles are rhombuses.
12. **NO** trapezoids are parallelograms.
13. **NO** trapezoids have both pairs of opposite sides parallel.
14. **SOME** trapezoids have a pair of congruent sides.
15. **All** kites have two pairs of congruent sides.
16. **All** squares are regular quadrilaterals.
17. **?** kites have congruent diagonals.
18. **NO** trapezoids have four congruent sides.
19. **SOME** parallelograms have four congruent angles.
20. **All** isosceles trapezoids have one pair of opposite congruent sides.