



Pairs of Converses

Each pair of statements below are converses of each other. Determine if **each** statement is true or false. If you think it's true, explain why. If you think it's false, show a counter-example.

1. If two lines have the same slope, then they are parallel.
If two lines are parallel, then they have the same slope.
2. If a polygon is a triangle, then the sum of its interior angles is 180° .
If the sum of the interior angles of a polygon is 180° , then the polygon is a triangle.
3. If a 4-sided shape has opposite sides that are parallel and congruent, then it is a rectangle.
If a 4-sided shape is a rectangle, then it has opposite sides that are parallel and congruent.
4. If a quadrilateral has a pair of parallel lines, then it is a trapezoid.
If a quadrilateral is a trapezoid, then it has a pair of parallel lines.
5. If a quadrilateral is a rhombus, then it has congruent sides.
If a quadrilateral has congruent sides, then it is a rhombus.
6. If the endpoints of line segment \overline{AB} are at $(-2, 0)$ and $(4, 2)$, then the midpoint of \overline{AB} is $(1, 1)$.
If the midpoint of \overline{AB} is $(1, 1)$, then the endpoints of \overline{AB} are at $(-2, 0)$ and $(4, 2)$.