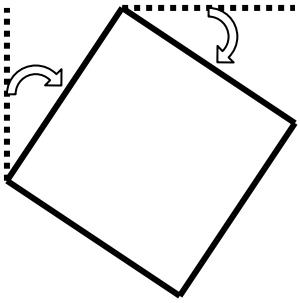
TIP 4

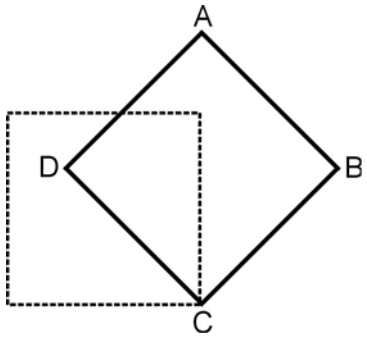
Ways to Determine a Square

1



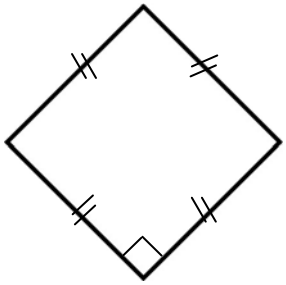
The amount of rotation off vertical is the same as rotation off horizontal.

2



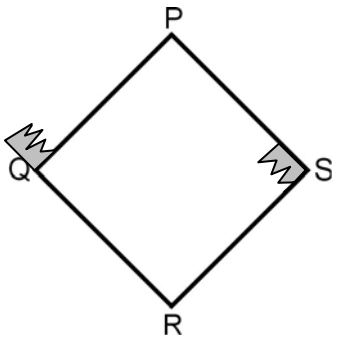
Trace ABCD, pin the tracing at C and rotate the tracing until it lines up with horizontal and vertical grid lines.

3



Measure angles with a protractor and sides with a ruler. Since angles are 90° and sides are all equal, it is a square.

4



Fold along diagonal PR and notice that Q falls on S, telling me that PQ = PS and QR = RS and ∠Q = ∠S. Fold along diagonal QS and notice that P falls on R, telling me that PQ = QR and PS = RS and ∠P = ∠R. This tells me that all the sides are the same length. Therefore, PQRS is a rhombus.

To prove that PQRS is also a square, we need to establish that any one of the interior angles is 90°. To do this, we could rip ∠PSR off and place it adjacent to ∠PQR. Observe the straight angle formed at Q by these two equal angles. Since the equal angles add to 180°, each must be 90°.

Since we know that all four sides are equal and that ∠PSR = 90°, we know that PQRS is a square.