1. Given Quadrilateral ABCD has the following vertices:

$A(4,8)$ $B(5,1)$ $C(0,-4)$ $D(-1,3)$

Use the distance formula to find the length of all four sides:

$AB =$ $\sqrt{50}$

$BC =$ $\sqrt{50}$

$CD =$ $\sqrt{50}$

$DE =$ $\sqrt{50}$

four congruent sides but no right angle:
figure is a Rhombus

What kind of quadrilateral is this?

SQUARE   RT ∠'s
OR
Rhombus

SIDLS   AB   BC
$m = \dfrac{8-1}{4-5} = \dfrac{7}{-1}$ $m = \dfrac{1--4}{5-0} = \dfrac{5}{5} = 1$

AB and BC are not perpendicular

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2. Is each biconditional true? If not, explain why.

a) Two lines are perpendicular if and only if they intersect.

If two lines are perpendicular, then they intersect   TRUE

If two lines intersect, then they are perpendicular   FALSE

b) An angle is a straight angle if and only if it has a measure of $180°$.

Yes, the biconditional is true.

If an angle is a straight angle, then its measure is 180°   TRUE

If an angle has a measure of 180°, then it is a straight angle   TRUE

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3. Use this true statement: If two lines are parallel, then they have the same slope.
a. Write the converse of this statement.

If 2 lines have the same slope, then they are ∥

b. Is the converse true?   If no, give a counterexample

NO   They could be the same line

If yes, write the biconditional formed by the original conditional and its converse.

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4. Use this true statement: If a number is odd, then both of its factors are odd.
a. Write the converse of this statement.

If both factors are odd, then the # is odd

b. Is the converse true?   If no, give a counterexample

Yes

If yes, write the biconditional formed by the original conditional and its converse.

A # is Odd iff it's 2 factors are Odd