Geometry

8.3 Show that a Quadrilateral is a Parallelogram

parallelogram

quadrilateral

If we can show any of these things in a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, then it is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

parallel

sides

If opposite \_\_\_\_\_\_\_\_\_\_ of a quad are \_\_\_\_\_\_\_\_\_\_\_\_\_, then it is a parallelogram (definition of parallelogram)

congruent

sides

If both pairs of opposite \_\_\_\_\_\_\_\_\_ of a quad are \_\_\_\_\_\_\_\_\_\_\_\_\_\_, then it is a parallelogram.

congruent

angles

If both pairs of opposite \_\_\_\_\_\_\_\_\_ of a quad are \_\_\_\_\_\_\_\_\_\_\_\_\_\_, then it is a parallelogram.

bisect

diagonals

If the \_\_\_\_\_\_\_\_\_\_\_\_\_ of a quad \_\_\_\_\_\_\_\_\_\_\_ each other, then it is a parallelogram.

congruent

parallel

sides

one

If \_\_\_\_\_\_\_ pair of opposite \_\_\_\_\_\_\_\_\_ of a quad is both \_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_, then it is a parallelogram.

Is it a parallelogram?

6 cm

6 cm

No, congruent is not the same as parallel

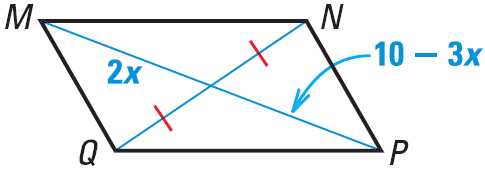
Yes, one pair of sides is parallel and congruent

In quadrilateral WXYZ, mW = 42°, mX = 138°, mY = 42°. Find mZ. Is WXYZ a parallelogram?

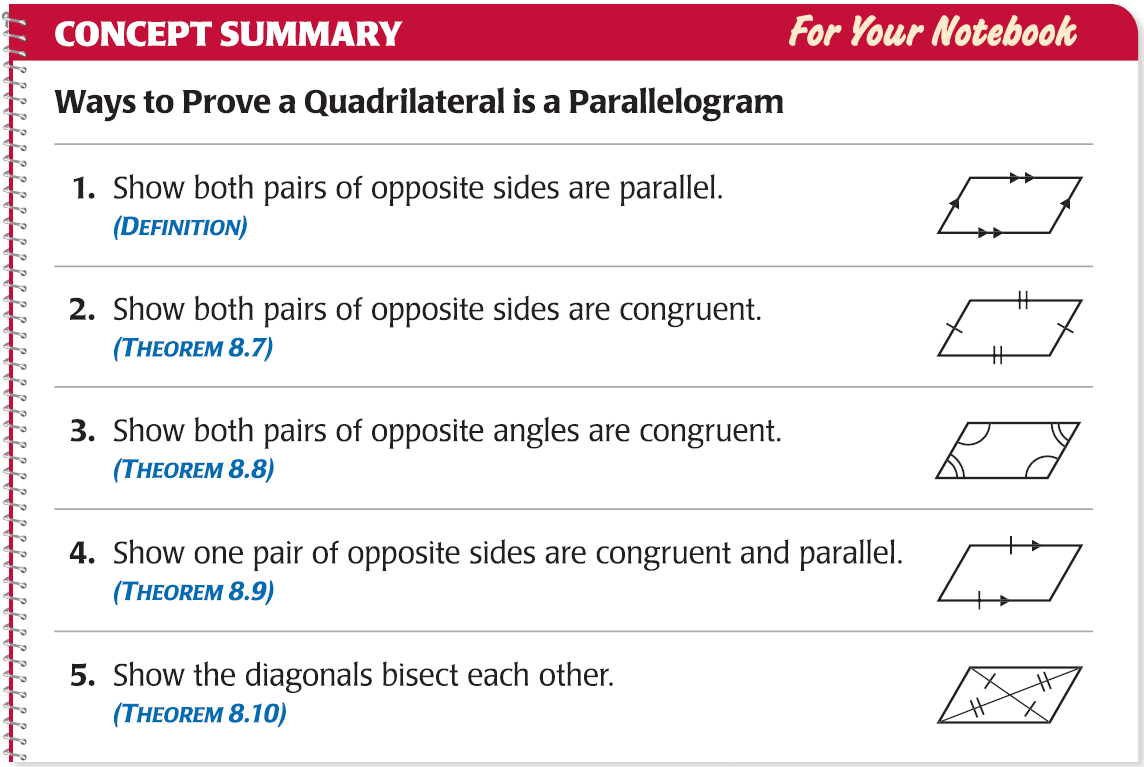
Sum of angles = 360

Yes, both pairs of opposite angles are congruent

Find x so that MNPQ is a parallelogram.



Diagonals bisect each other



Assignment: 526 #4-30 even, 34, 36, 39, 43-47 all = 22