Aim: How do we prove a quadrilateral is a rhombus?

Do Now:

a) Take out your homework.

b) Compare your homework with a neighbor and identify any errors or questions.

c) Wait for HW to be checked and then ask questions.

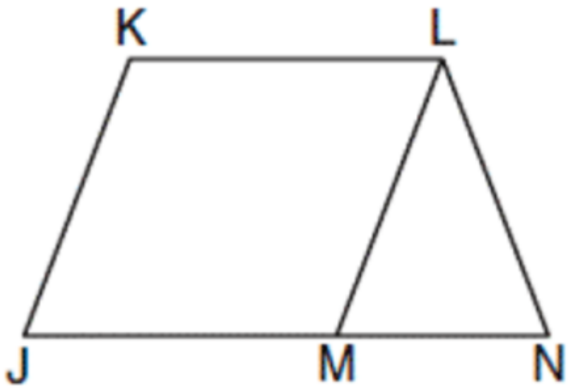
Aim: How do we prove a quadrilateral is a rhombus?

To prove a quadrilateral is a rhombus, do one of the following:

a) Prove it is a parallelogram with	two congruent, consecutive sides
b) Prove it is a parallelogram with	perpendicular diagonals
c) Prove it is a parallelogram with	one diagonal that bisects the opposite angles
d) Prove it is	equilateral (all sides are congruent)

Aim: How do we prove a quadrilateral is a rhombus?

Given: $JKLM$ is a parallelogram.
$\overline{JM} \cong \overline{LN}$
$\angle LMN \cong \angle LNM$
Prove: $JKLM$ is a rhombus.



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We need one new property for the last proof:

Transitive Property:

if a=b and b=c, then a=c

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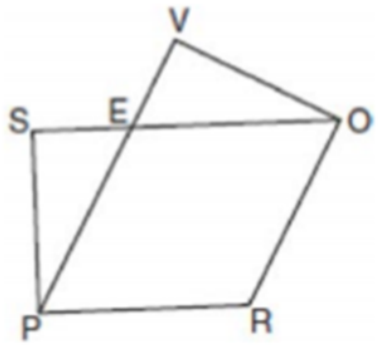
Turn and Talk - What's the plan?

Given: $PROE$ is a rhombus, $\overline{SEO}$, $\overline{PEV}$, $\angle SPR \cong \angle VOR$

Prove: $\overline{SE} \cong \overline{EV}$



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Given:

Quadrilateral ABCD with diagonals $\overline{AC}$ and $\overline{BD}$ that intersect at E.

$\angle BAE \cong \angle ACD$ and $\angle CBD \cong \angle BDA$

Parallelogram AEDF where diagonals $\overline{AD}$ and $\overline{EF}$ are $\cong$.

Prove: ABCD is a rhombus