## Geometry

Notes Lesson 6-3
What is the definition of a parallelogram? $\qquad$
$\qquad$ .

Ways to prove a quadrilateral is a parallelogram:

| If... |  | Then... |
| :---: | :---: | :---: |
|  |  |  |

Examples:

1. Is JKLM a $p$-gram for $\mathrm{a}=3$ and $\mathrm{b}=9$ ? Explain your reasoning.

2. Is PQRS a p -gram for $\mathrm{x}=10$ and $\mathrm{y}=6.5$ ? Explain your reasoning.

3. Determine whether or not the quadrilaterals below are p-grams. Justify your answer with a theorem or definition.
a.

b.

c.

d.

4. Write a coordinate proof. Show that quadrilateral JKLM is a p-gram by using the definition of a p-gram. $\mathrm{J}(-1,-6), \mathrm{K}(-4,-1), \mathrm{L}(4,5)$ and $\mathrm{M}(7,0)$.

