What is the definition of a parallelogram?

Ways to prove a quadrilateral is a parallelogram:



Examples:

1. Is JKLM a p-gram for a = 3 and b = 9? Explain your reasoning.

$$K \xrightarrow{5b+6} L$$

$$15a - 11 \xrightarrow{10a+4} M$$

$$J \xrightarrow{8b-21} M$$

2. Is PQRS a p-gram for x = 10 and 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.



4. Write a coordinate proof. Show that quadrilateral JKLM is a p-gram by using the <u>definition of a p-gram</u>. J(-1, -6), K(-4, -1), L(4, 5) and M(7, 0).

					6 5 4 3 2									
5	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	
					-1									
					-2									
1					-3									_
1					-4									_
1					-5									_
1					-6									_
+										_		-		-