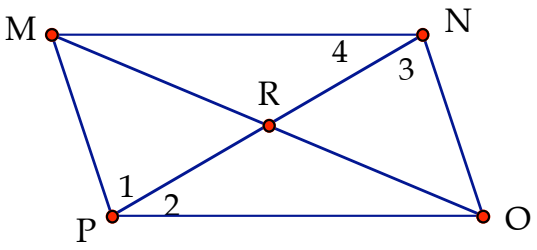
Chapter 6: Quadrilaterals Name _____
Lesson 6-1: Parallelograms
Homework

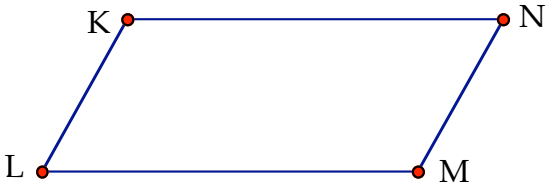
Use the diagram of the parallelogram to the right to answer the following questions.



1. If m<MPO = 122°, then m<PON = _____ .
2. If m<PMN = 74°, then m<NOP = _____ .
3. If m<4 = 36°, then m< _____ = 36°.
4. If m<MNO = 106° and m<4 = 47°, then m<3 = _____ ,.
5. If NR = 3x + 2 and RP = x + 14, then x = _____, NR = _____ and NP = _____ .
6. If MR = 2x + 4 and MO = 7x - 28, then x = _____, RO = _____ and MO = _____ .
7. If m<PMN = 8x - 5 and m<PON = 4x + 19, then x = _____, m<PMN = _____ and m<MNO = _____ .
8. If m<MPO = 9x + 2 and m<PON = 5x + 10, then x = _____, m<MPO = _____, m<PON = _____, and m<PMN = _____ .

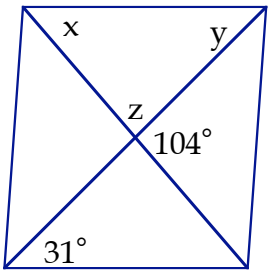
Complete each statement using parallelogram KLMN.

9. If KN = 3x - 5 and LM = x + 9, then KN = _____ .
10. If KL = $\frac{x}{2}$ and MN = 2x - 9, then KL = _____ .
11. If m<L = 4x + 11 and m<K = 6x - 1, then m<K = _____ .
12. If m<L = x + 40 and m<N = 3x - 6, then m<L = _____ .



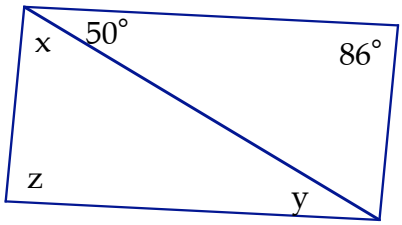
Find the values of x, y and z if each quadrilateral is a parallelogram.

13.



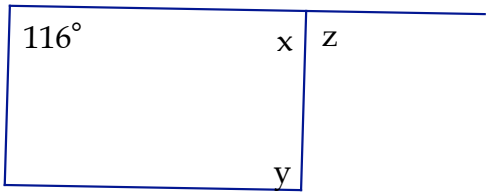
x = _____
y = _____
z = _____

14.



x = _____
y = _____
z = _____

15.

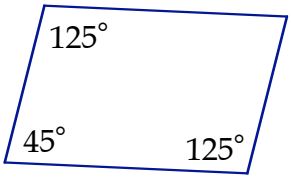


x = _____
y = _____
z = _____

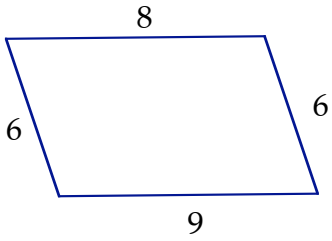
16. In parallelogram WXYZ, if m<W = 3p and m<X = 4p + 33, find p and the measure of all four angles.

Explain why it is impossible for each figure to be a parallelogram.

17.



18.



19. Quad TRAP has vertices T(-2, -1), R(2, 3), A(7, 3), and P(3, -1). Is TRAP also a parallelogram? Explain why or why not?