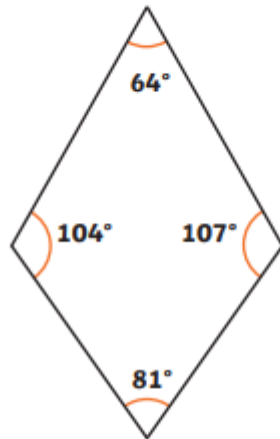


- 1) Monika measured the angles in this kite shape with a protractor and labelled it with the angles she found.



Not to scale

Leo says, "Without measuring the angles myself, I think I have found two reasons to prove Monika hasn't measured the angles correctly."

Which two reasons do you think Leo has found to explain how he knows that Monika has not measured the angles correctly in the kite? Explain your answer fully.

## Answers

- 1) **The first reason is that angles in a quadrilateral add to  $360^\circ$  and the angles in this kite add to  $356^\circ$ .**  
**The second reason is that opposite angles in this kite shape are equal but Monika's angle measurements are not equal.**
- 2)  **$147^\circ$  and  $112^\circ$  are the missing angles.**
- 3) a) **Could not belong to the parallelogram as there is not two sets of equal angles.**  
 b) **Could belong to the parallelogram as the angles add to  $360^\circ$  and it has two sets of equal angles.**  
 c) **Could not belong to the parallelogram as the angles add to  $358^\circ$  not  $360^\circ$ .**

- 2) In a quadrilateral, two of the angles measure  $17^\circ$  and  $84^\circ$ .

Which of the following could be the pair of angles that is missing?

$90^\circ$  and  $123^\circ$      $66^\circ$  and  $35^\circ$

$147^\circ$  and  $112^\circ$      $160^\circ$  and  $87^\circ$



- 3) Which of these sets of angles could belong to a parallelogram? Which could not? Explain your answer fully.



- a)  $71^\circ, 72^\circ, 108^\circ, 109^\circ$
- b)  $100^\circ, 100^\circ, 80^\circ, 80^\circ$
- c)  $128^\circ, 128^\circ, 51^\circ, 51^\circ$

Important note: quadrilaterals are not drawn to scale, do not use a protractor.