

**TOPIC : GEOMETRIC OF 2D SHAPES
(CALCULATIONS OF SIDES , ANGLES
AND DIAGONALS IN A QUADRILATERAL)**

LESSON 5

Term	3	Week	9	Grade	9
Duration	1 Hour				

CONCEPTS AND SKILLS

All angles in a quadrilateral equals to 360

RELATED CONCEPTS/ TERMS/VOCABULARY

Parallelogram; Rhombus; Kite; Interior Angles Of Quad; Square; Rectangle

PRIOR-KNOWLEDGE/ BACKGROUND KNOWLEDGE

Properties of the above quadrilateral

RESOURCES

Mind Action Series Grade 9; Answer Series Grade 9; Siyavula Workbook Grade 9

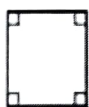
ERRORS/MISCONCEPTIONS/PROBLEM AREAS

- Not applying the properties of quadrilaterals to solve for missing angles
- Not knowing the rules of equations to solve for unknown angles

METHODOLOGY

**TEST PROPERTIES OF QUADRILATERAL PROPERTIES
RECAP RULES FOR EQUATIONS**

RECAP



square

All sides equal
All angles 90°



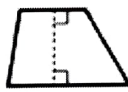
rectangle

Opposite sides equal
All angles 90°



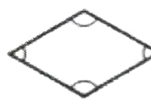
parallelogram

Opposite sides equal
and parallel



**trapezoid (US)
trapezium (UK)**

Two sides parallel



rhombus

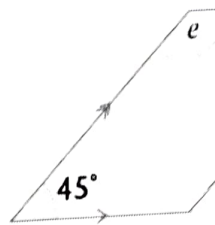
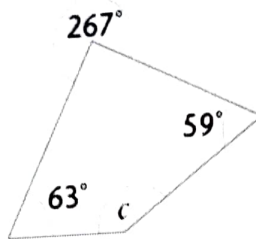
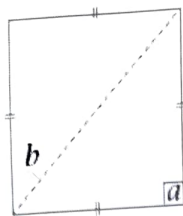
All sides equal
Opposite sides parallel

ACTIVITIES/ASSESSMENTS

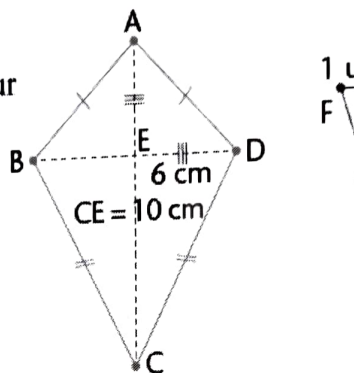
ACTIVITY ONE :

UNKNOWN SIDES AND ANGLES IN QUADRILATERALS

- Determine the sizes of angles a to e in the quadrilaterals below. Give your answers.



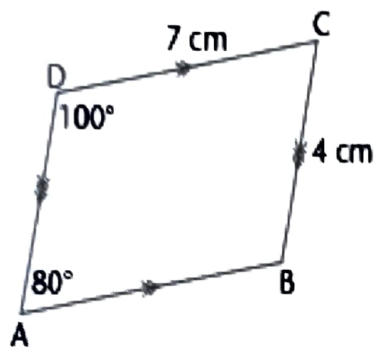
- Calculate the perimeters of the quadrilaterals on the right. Give your answers to two decimal places.



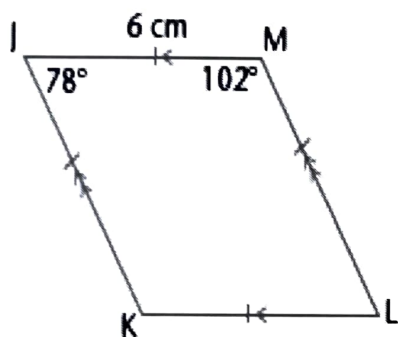
ACTIVITY TWO: HOMEWORK

Find the length of all the **unknown sides** and **angles** in the 1
Give reasons to justify your statements. (Also recall that the sum of the angles of a quadrilateral is 360° .)

1.



2.



3. ABCD is a kite.

