BOOK
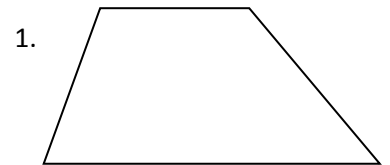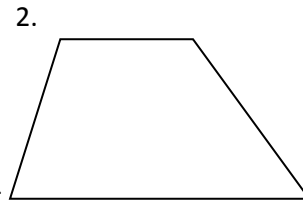# OF
QUADRIALATERALS

Properties of Trapezoids

1. Exactly one pair of _____ sides

    called the _____
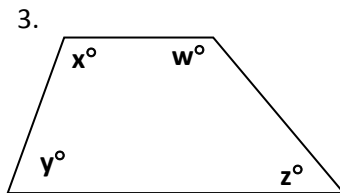
2. The non- _____ sides are called the _____

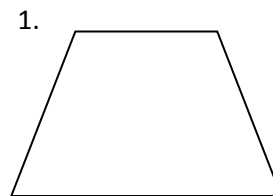3. Same Side Interior angles are _____

    ∗   _____ + _____ = 180°   and   _____ + _____ = 180°

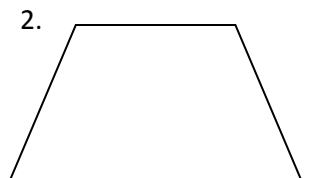**Properties of Isosceles Trapezoids**

1. The legs are _____

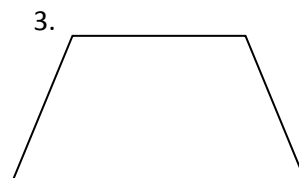2. The diagonals are _____
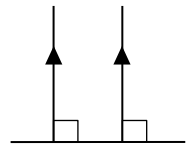
3. The base angles are _____
    ∗   Base angles of a trapezoid are either pair of angles
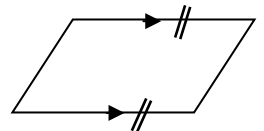
   that share a base as a common side

TRAPEZOID

<u>Perpendicular/Parallel Line Theorem:</u> if two lines are $\perp$ to the same line, then the lines are parallel ($\parallel$) to each other.

<u>Parallelogram/Congruent-Parallel Side Theorem</u>: if one pair of opposite sides of a quadrilateral is both congruent and parallel, then the quadrilateral is a parallelogram.

<u>Trapezoid Midsegment Theorem:</u> The midsegment of a trapezoid is parallel to each of the bases and its length is one half the sum of the bases (average measure of bases).
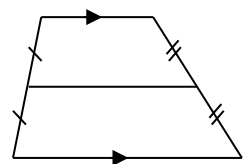
Theorems for Quadrilaterals

Properties of Kites

1. Two pairs of consecutive sides that are _____

2. Opposite sides are not _____
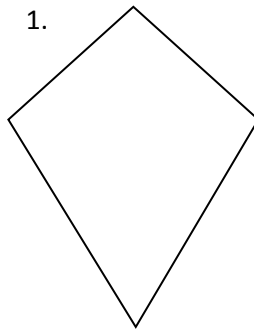
3. One pair of opposite angles is _____

4. One diagonal _____ the other diagonal

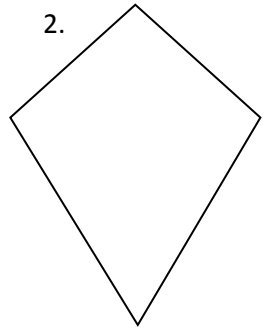5. One diagonal _____ its vertex angles

6. The diagonals are _____ and form 4 _____

1.

2.

3.

4.

5.
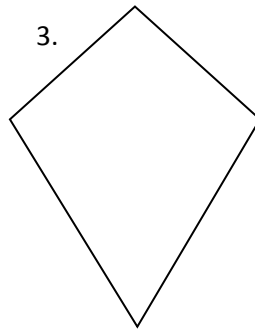
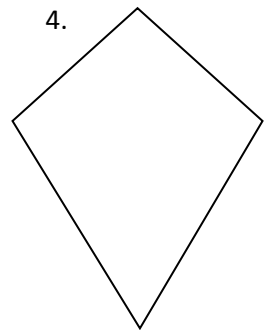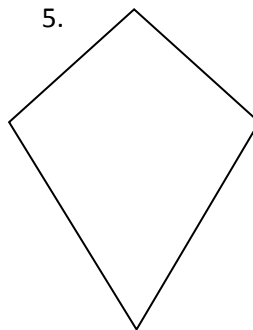6.
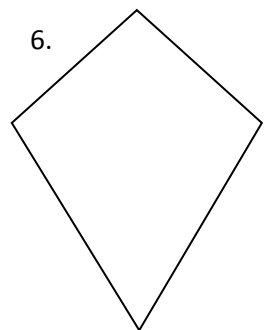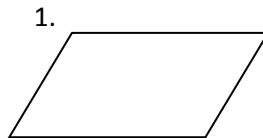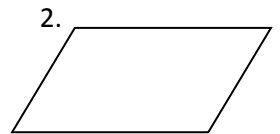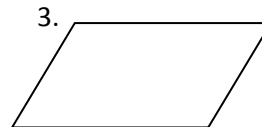
KITE

Properties of Parallelograms

1. Both pairs of opposite sides are _____
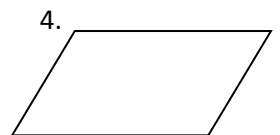
2. Both pairs of opposite sides are _____

3. Both pairs of opposite angles are _____
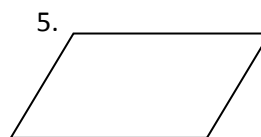
4. Consecutive angles are _____
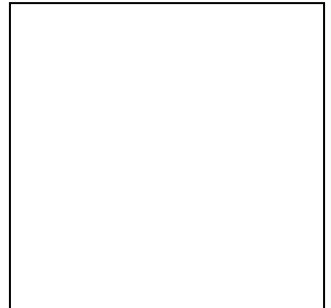
5. The diagonals _____ each other

1.

2.

3.

4.

5.

PARALLELOGRAM

Properties of a Square

1. All properties of a Parallelogram:

    a. Both pairs of opposite sides are _____

    b. Both pairs of opposite sides are _____

    c. Both pairs of opposite angles are _____

    d. The diagonals _____ each other

2. All properties of a Rhombus:

    a. All sides are _____

    b. Diagonals are _____ and form 4 _____

    c. The diagonals _____ the angles

3. All properties of a Rectangle:

    a. All angles are _____

    b. Diagonals are _____

1.

2.

3.

SQUARE

Properties of a Rhombus

1. All properties of a Parallelogram:

    a. Both pairs of opposite sides are _____

    b. Both pairs of opposite sides are _____

    c. Both pairs of opposite angles are _____

    d. The diagonals _____ each other

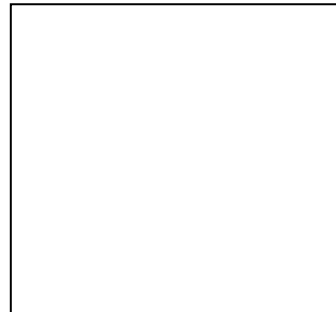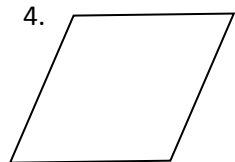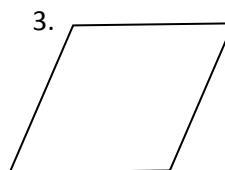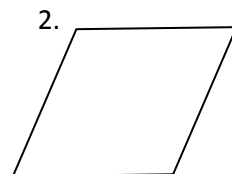2. All sides are _____

3. Diagonals are _____ and form 4 _____

4. The diagonals _____ the angles

1.

2.

3.

4.

RHOMBUS

Properties of a Rectangle

1. All properties of a Parallelogram:

    a. Both pairs of opposite sides are _____
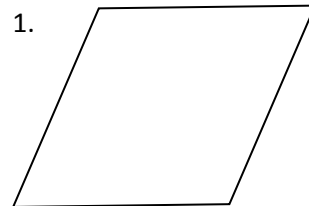
    b. Both pairs of opposite sides are _____

    c. Both pairs of opposite angles are _____

    d. The diagonals _____ each other

2. All angles are _____

3. Diagonals are _____ but not $\perp$

1.

2.

3.

RECTANGLE