# 12.4

# QUADRILATERALS

# DEFINE: Quadrilateral

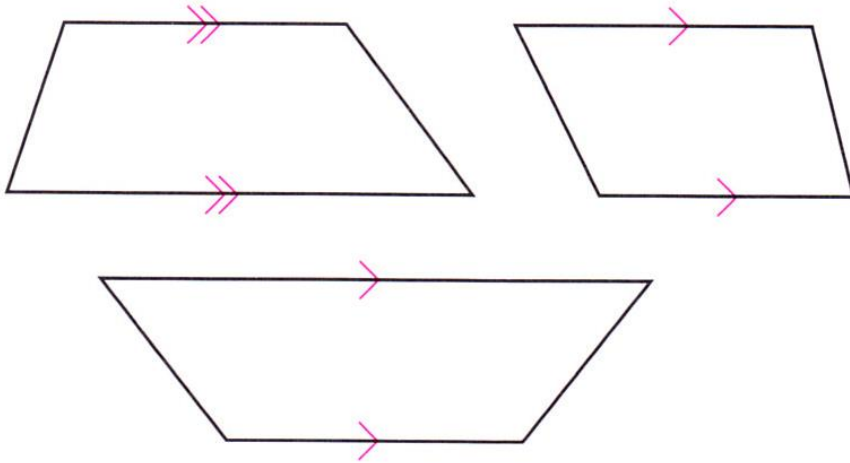**Quadrilaterals**

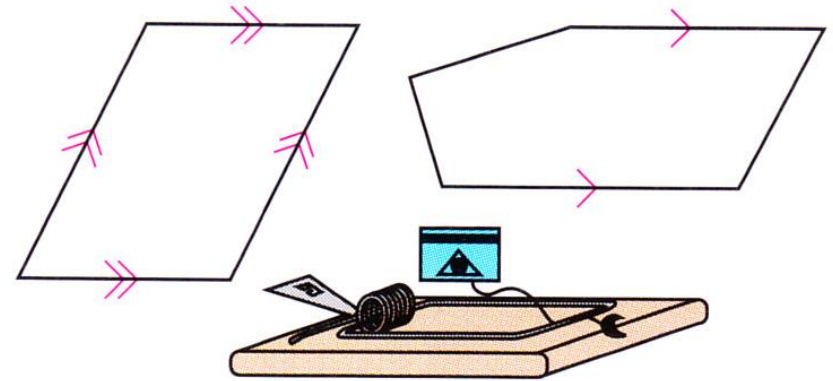**Not Quadrilaterals**

_____

_____

_____

_____
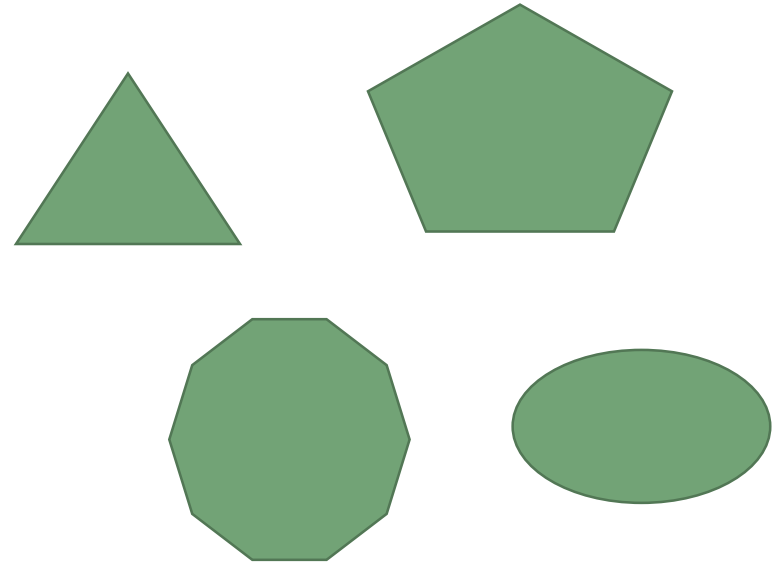
**1.*** Define *trapezoid.*
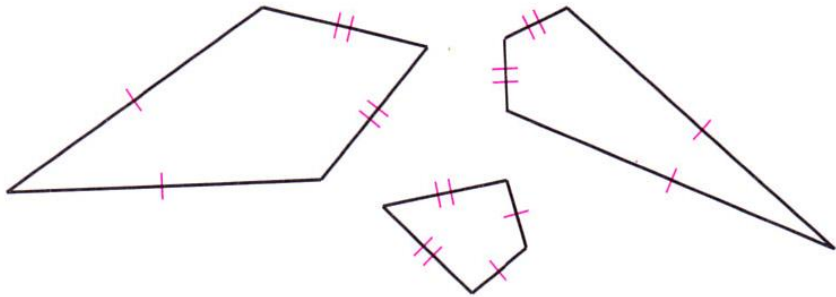
Trapezoids

Not trapezoids



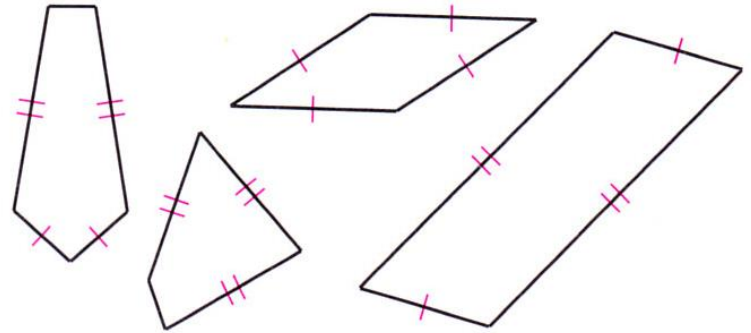Note: Matching arrows in a diagram indicate parallel segments.

_____

_____

_____

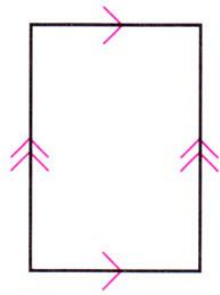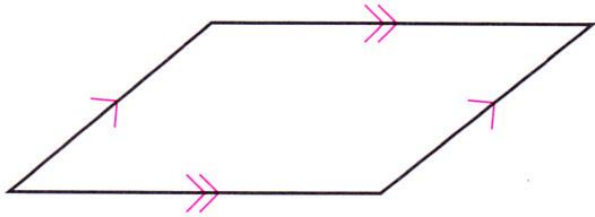Clue: You can use words in these definition that you previously defined.
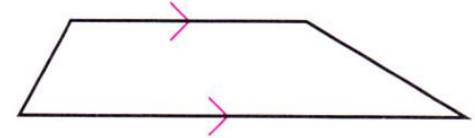
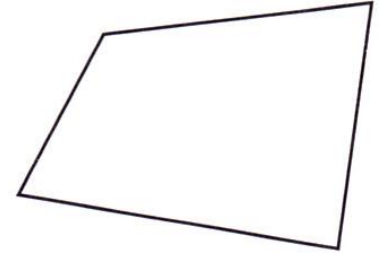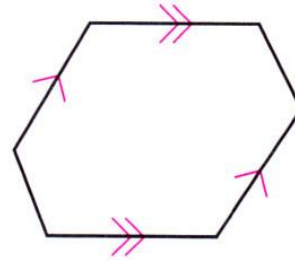**2.** Define *kite*.

Kites

Not kites

_____

_____

_____

_____

**3.** Define *parallelogram*.

Parallelograms

Not parallelograms
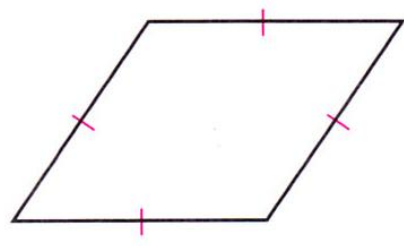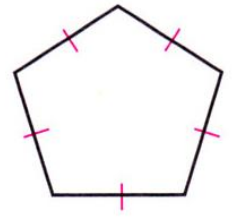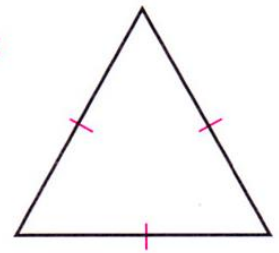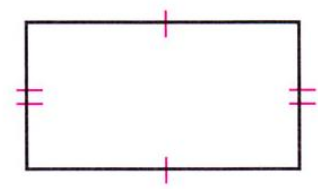
_____

_____

_____

_____

**4.** Define *rhombus.*

Rhombuses
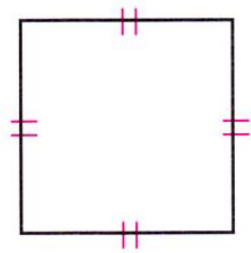
Not rhombuses

Both polygons are parallelograms.

_____

_____

_____

_____

**5.*** Define *rectangle*.
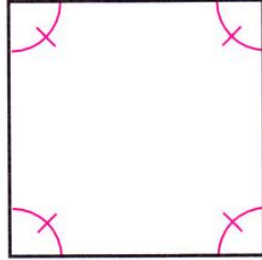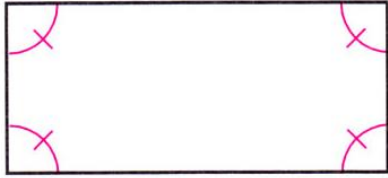
Rectangles                                      Not rectangles
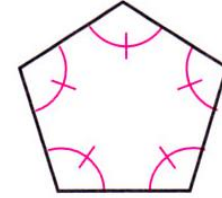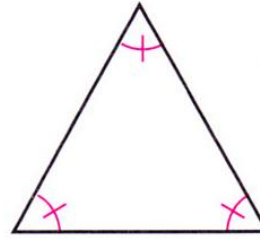
Both polygons are parallelograms.

_____

_____

_____

_____

**6.*** Define *square.*
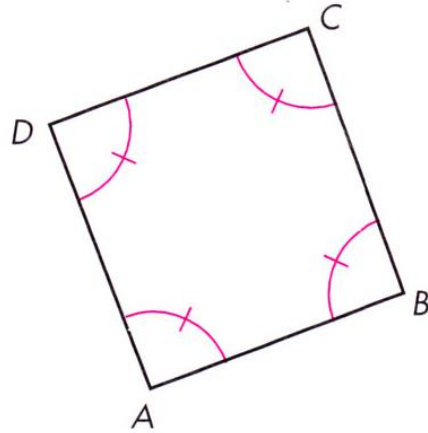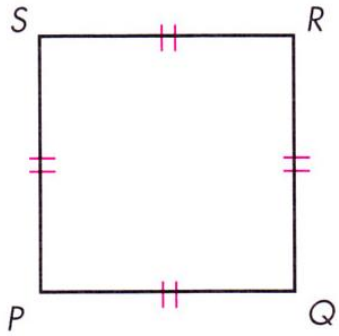
Squares                                      Not squares
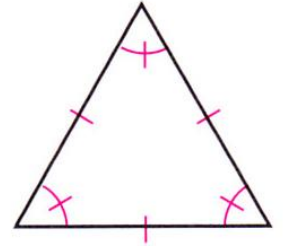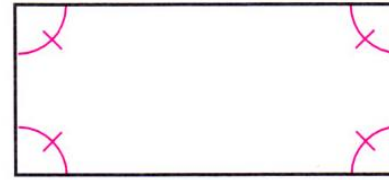


Quadrilateral *ABCD* is a rhombus.
Quadrilateral *PQRS* is a rectangle.

_____

_____

_____

_____

**The diagram shows properties of different types of quadrilaterals and how they are related. When identifying a quadrilateral, use the name that is most specific.**



Quadrilateral

Trapezoid

Parallelogram

Kite

_____ with exactly ____ pair of parallel sides

_____ with opposite sides that are _____ and _____

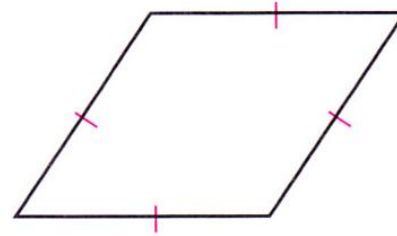_____ with ____ pairs of _____ _____ sides and _____ sides that are not congruent

Rectangle

Rhombus

_____ with ____ right angles

_____ with ____ congruent sides

Square

_____ with ____ congruent sides and ____ right angles
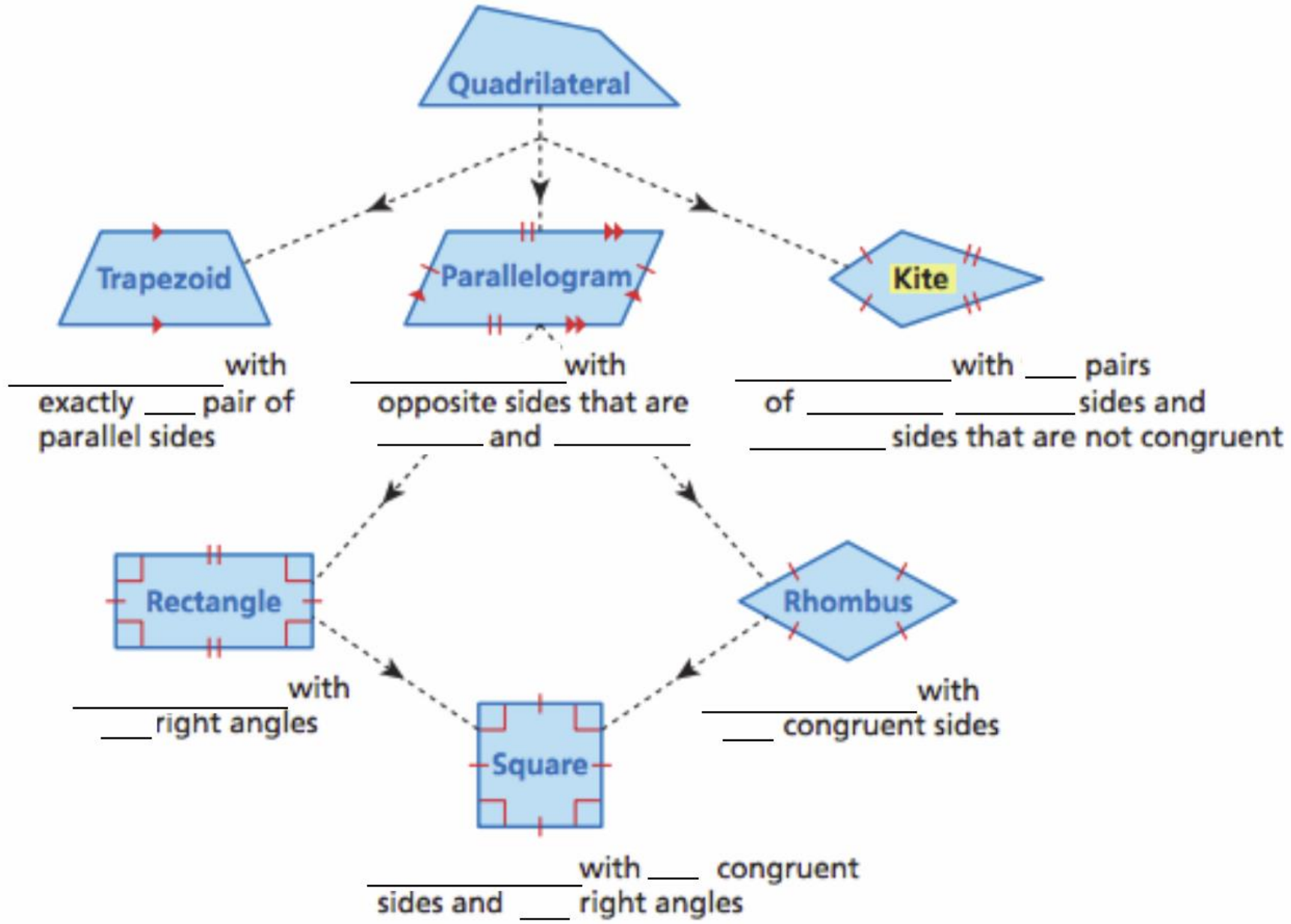
# Do you understand?

**1)**

Classify the quadrilateral.

**a.**
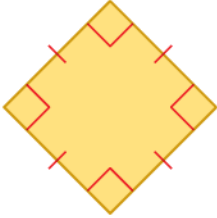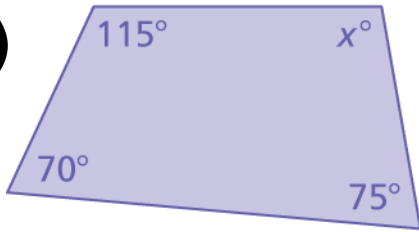


**b.**
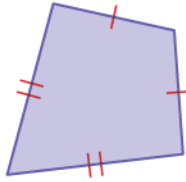
# Do you understand?
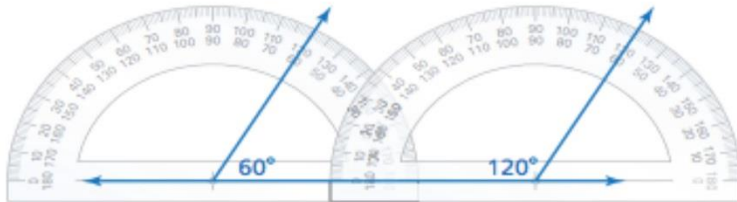
**2)**



115°    $x°$

70°

75°

**Find the value of $x$.**

# Unit 4: 12.4 Constructing a Quadrilateral

## Draw a parallelogram with 60° angle and a 120° angle.
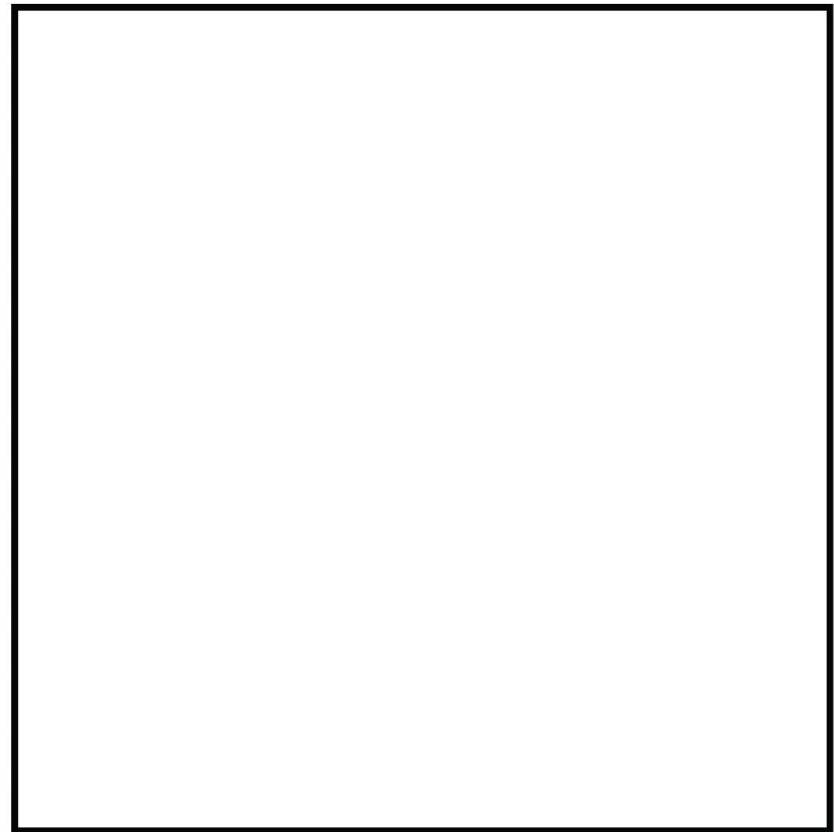
**Step 1:** Draw a line.

**Step 2:** Draw a 60° angle and a 120° angle that each have one side on the line.



**Step 3:** Draw the remaining side. Make sure that both pairs of opposite sides are parallel and congruent.
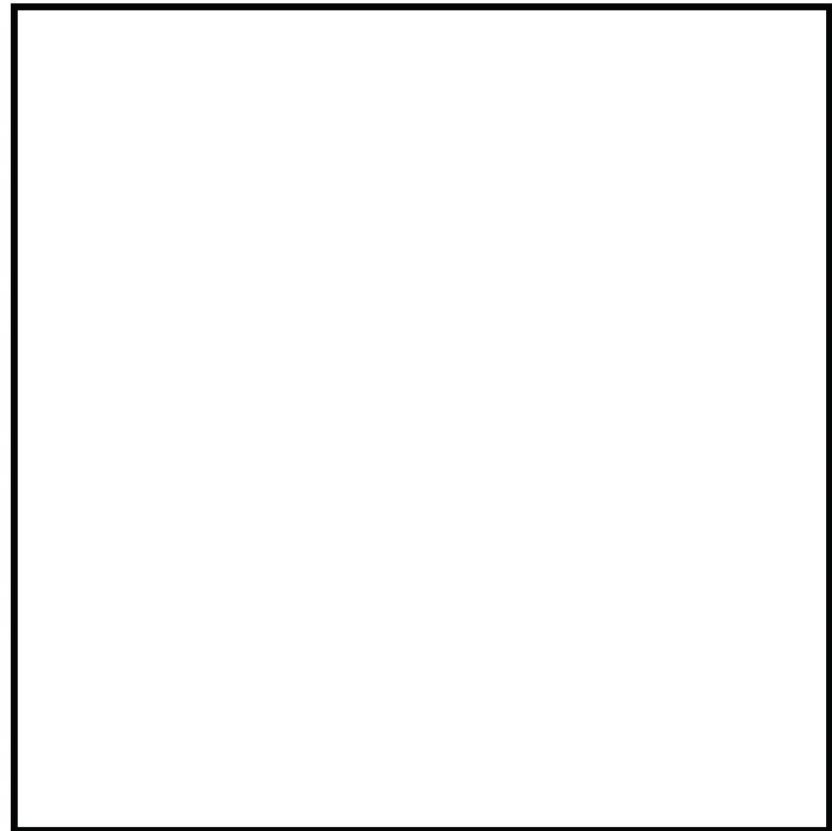


**Draw your parallelogram in the space below.**

*Practice:*

Draw a right trapezoid whose parallel sides have lengths
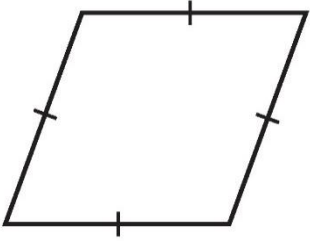of 3 centimeters and 5 centimeters.

What features
should your
quadrilateral
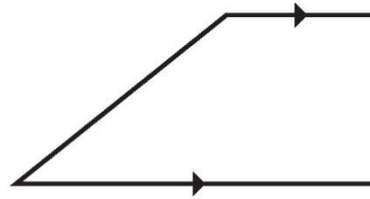have?

**Draw your trapezoid in the
space below.**

# Classwork

Classify the quadrilateral.

1. 

2. 
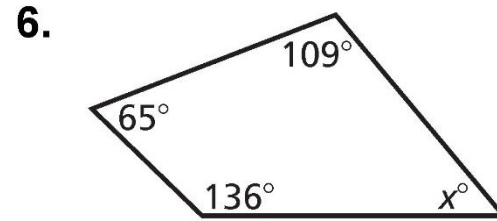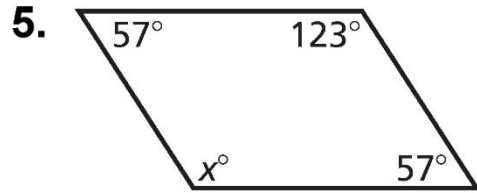
3. 
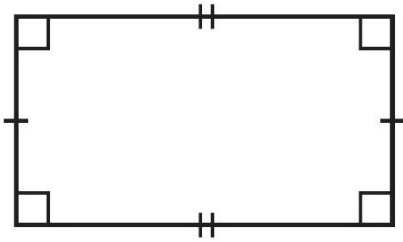
4. 
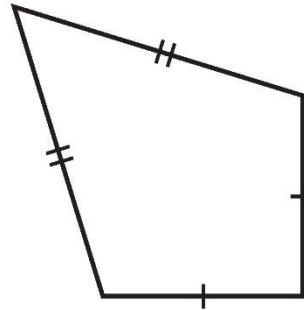
# Classwork

**Find the value of *x*.**

**5.**



**6.**

# Classwork

**7.** For a science fair, you are displaying your project on a trapezoidal piece of poster board. What is the measure of the missing angle