Eureka Math

3rd Grade
Module 7
Lesson 7

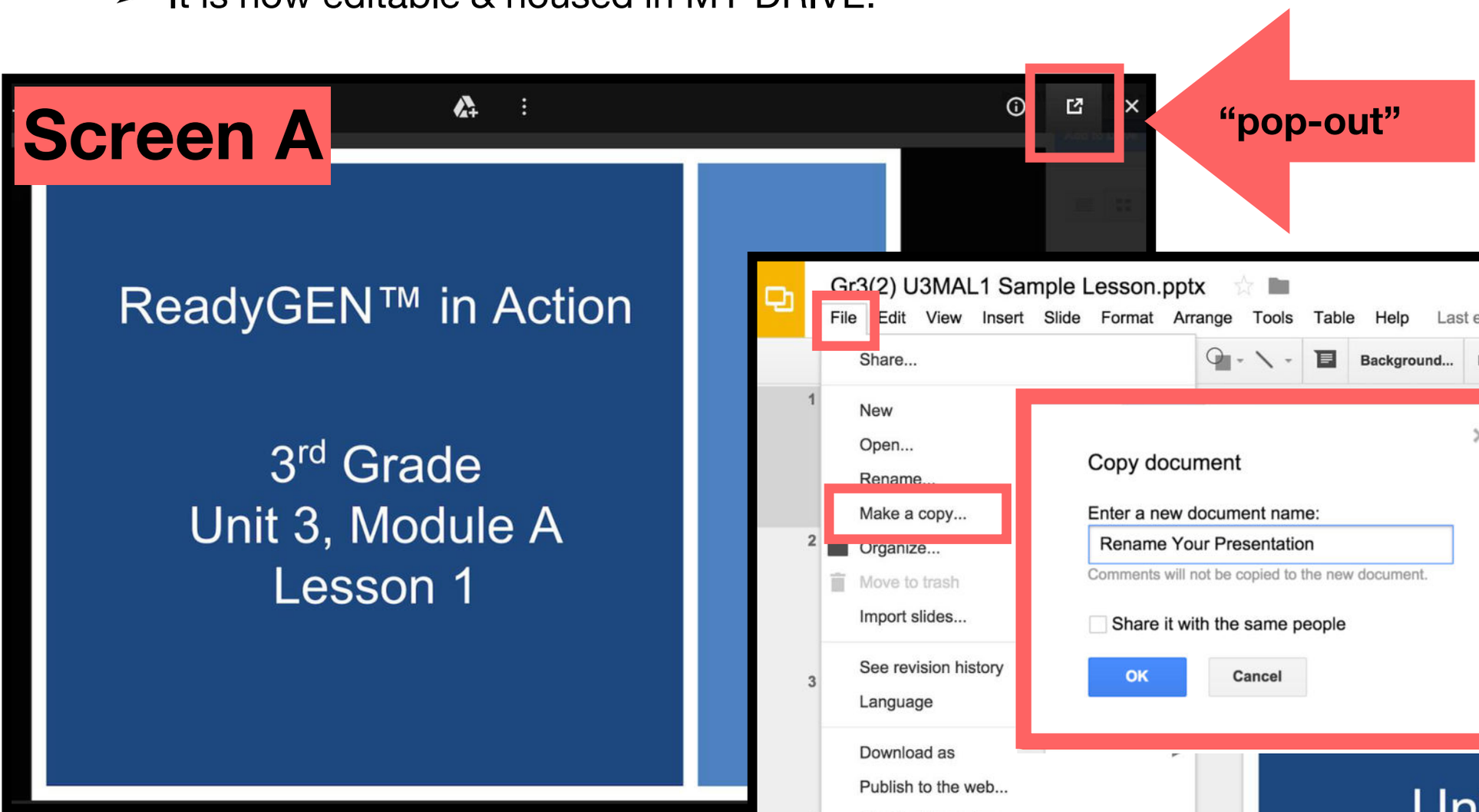
At the request of elementary teachers, a team of Bethel & Sumner educators met as a committee to create Eureka slideshow presentations. These presentations are not meant as a script, nor are they required to be used. Please customize as needed. Thank you to the many educators who contributed to this project!

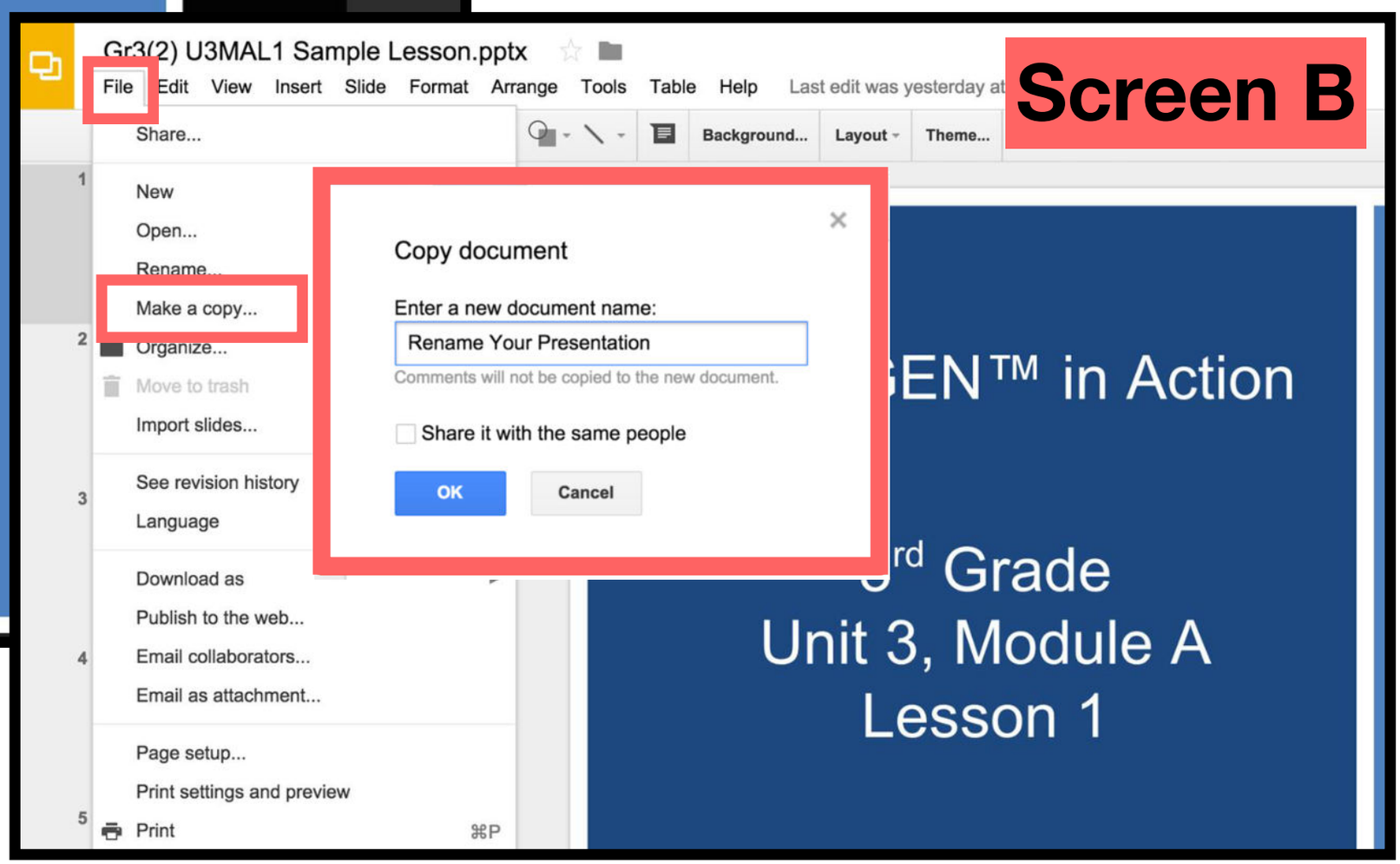
Directions for customizing presentations are available on the next slide.

Customize this Slideshow

Reflecting your Teaching Style and Learning Needs of Your Students

- When the Google Slides presentation is opened, it will look like Screen A.
- Click on the “pop-out” button in the upper right hand corner to change the view.
- The view now looks like Screen B.
- Within Google Slides (not Chrome), choose FILE.
- Choose MAKE A COPY and rename your presentation.
- Google Slides will open your renamed presentation.
- It is now editable & housed in MY DRIVE.



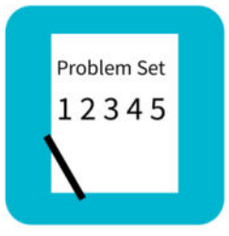


Icons

Read, Draw, Write

Learning Target

Personal White Board

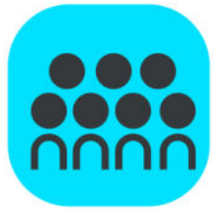


Problem Set

Manipulatives Needed

Fluency

Think Pair Share



Whole Class

Individual

Partner

Small Group

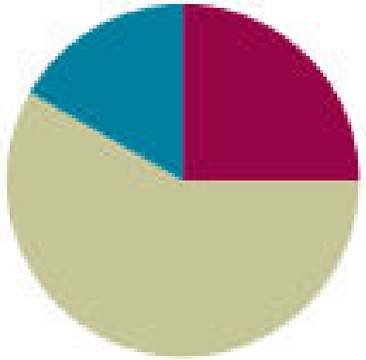
Small Group Time

Lesson 7

Objective: Reason about composing and decomposing polygons using tetrominoes.

Suggested Lesson Structure

Fluency Practice	(15 minutes)
Concept Development	(35 minutes)
Student Debrief	(10 minutes)
Total Time	**(60 minutes)**



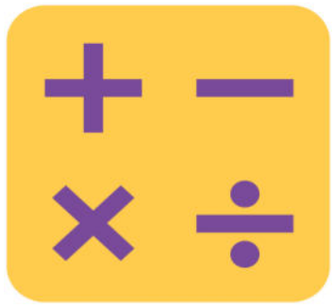
I can reason about composing and decomposing tetrominoes.

Fluency Practice

Time students for 2 minutes

Multiply.

5 x 1 = _____	5 x 2 = _____	5 x 3 = _____	5 x 4 = _____
5 x 5 = _____	5 x 6 = _____	5 x 7 = _____	5 x 8 = _____
5 x 9 = _____	5 x 10 = _____	5 x 5 = _____	5 x 6 = _____
5 x 5 = _____	5 x 7 = _____	5 x 5 = _____	5 x 8 = _____
5 x 5 = _____	5 x 9 = _____	5 x 5 = _____	5 x 10 = _____
5 x 6 = _____	5 x 5 = _____	5 x 6 = _____	5 x 7 = _____
5 x 6 = _____	5 x 8 = _____	5 x 6 = _____	5 x 9 = _____
5 x 6 = _____	5 x 7 = _____	5 x 6 = _____	5 x 7 = _____
5 x 8 = _____	5 x 7 = _____	5 x 9 = _____	5 x 7 = _____



Fluency Practice

(3 minutes)

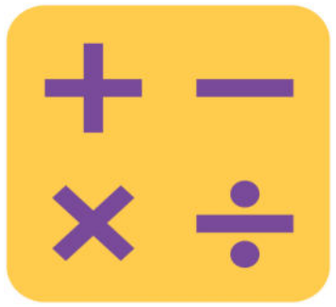
Have students stand up for this activity.

- Stretch your left arm up, toward the ceiling. Stretch the other arm parallel to the floor. What type of angle do you think I'm modeling with my arms?

Right Angle

- Now switch arms, making your right arm reach for the ceiling and your left arm parallel with the floor. What angle are we modeling?

Right Angle



Fluency Practice

(3 minutes)

Have students stand up for this activity.

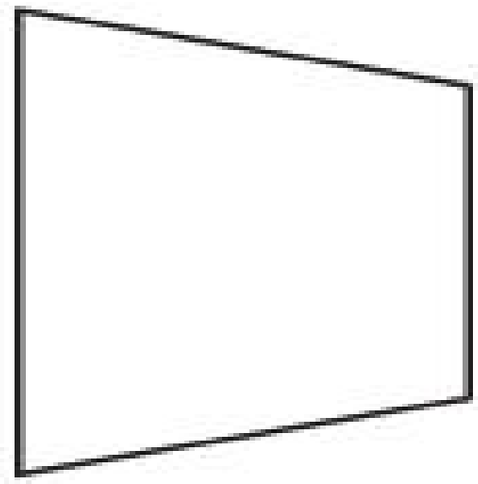
- How many sides does a triangle have? **3**
- Make a triangle with a partner using your arms.

- What do we call a four-sided figure? **4**
- Make a quadrilateral with a partner using your arms.

- Point to a wall that is parallel to a wall that I'm pointing to. (teachers point to a few walls and have students point out the parallel walls).
- Point to the walls that make a right angle with the walls to which I'm pointing.

Fluency Practice

Classify the Polygon (4 minutes)



How many sides does this polygon have?

Four

What do we call a polygon with four sides?

A quadrilateral

How many sets of parallel lines does this quadrilateral have?

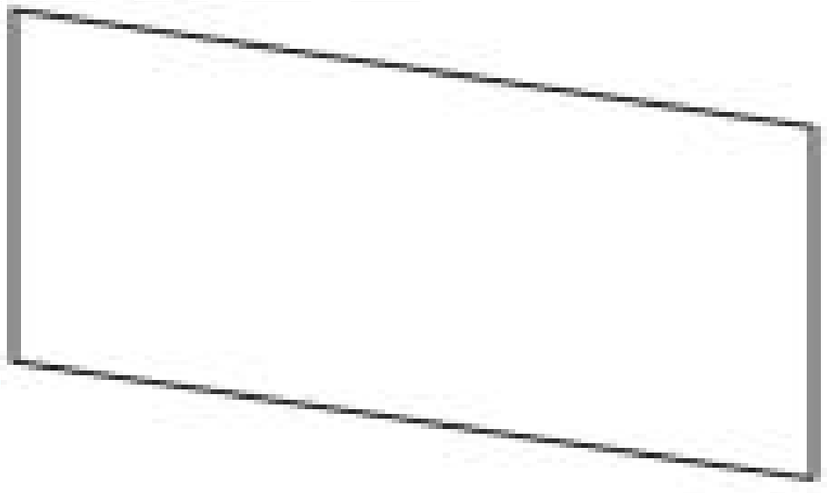
1 set

What do we call quadrilaterals that have AT LEAST one set of parallel lines?

Trapezoids

Fluency Practice

Classify the Polygon



Is this polygon a quadrilateral? Why?

YES! It has 4 sides.

How many right angles does this quadrilateral have?

None

Is this quadrilateral a trapezoid? Why?

Yes...it has at least 1 set of parallel sides.

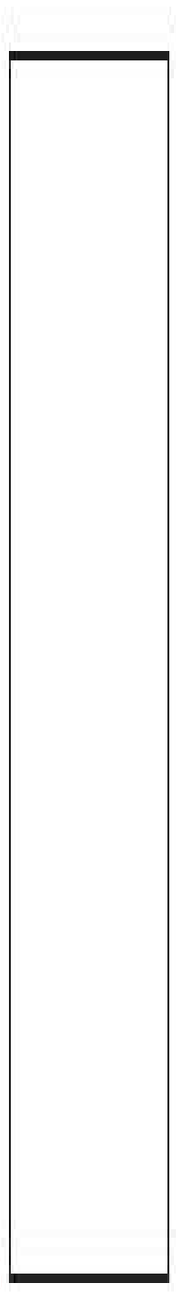
How many sets of parallel sides does it have?

What do we call a quadrilaterals that have two sets of parallel sides?

A Parallelogram

Fluency Practice

Classify the Polygon (4 minutes)



Is this polygon a quadrilateral? Why?

Yes, it has 4 sides.

How many right angles does this quadrilateral have?

4 right angles.

Is this quadrilateral a trapezoid? Why?

Yes, it has at least 1 set of parallel sides.

Is this trapezoid also a parallelogram? Why?

Yes, it has two sets of parallel sides.

Is this parallelogram also a rectangle? Why?

Yes, two sets of parallel sides and 4 right angles

What do we call a quadrilaterals that have two sets of parallel sides?

Parallelograms

Fluency Practice

Classify the Polygon (4 minutes)

Is this polygon a quadrilateral? Why?

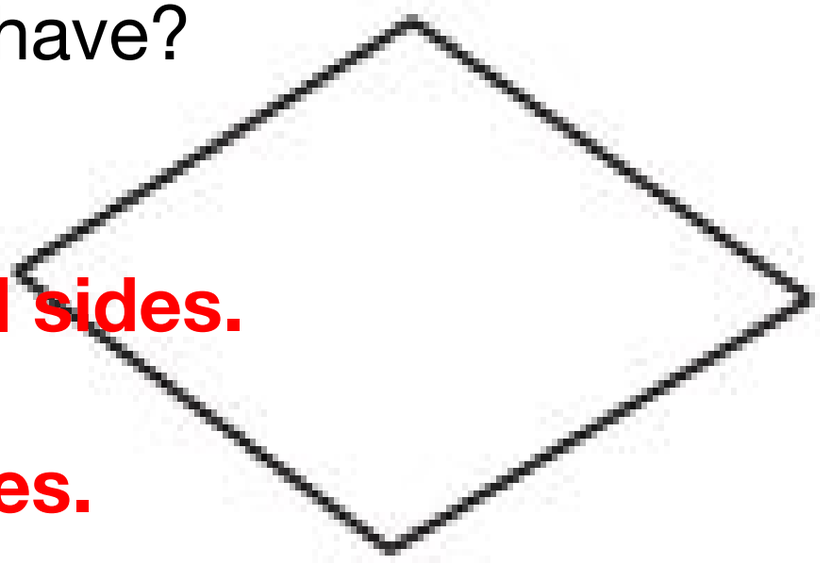
Yes, 4 sides

How many right angles does this quadrilateral have?

No right angles

Is this quadrilateral a trapezoid? Why?

Yes, has at least 1 set parallel sides.



Is this trapezoid also a parallelogram? Why?

Yes, 2 sets of parallel sides.

Is this parallelogram also a rectangle? Why?

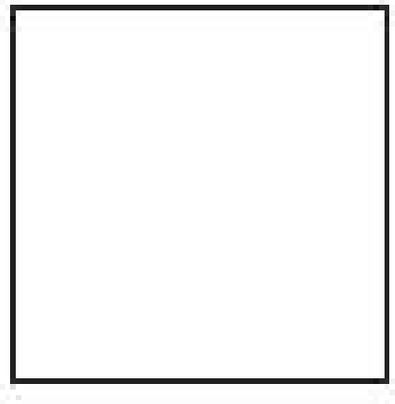
No, it has no right angles.

What do we call a parallelogram with 4 equal-length sides?

A Rhombus

What is a rhombus with 4 right angles called?

A Square



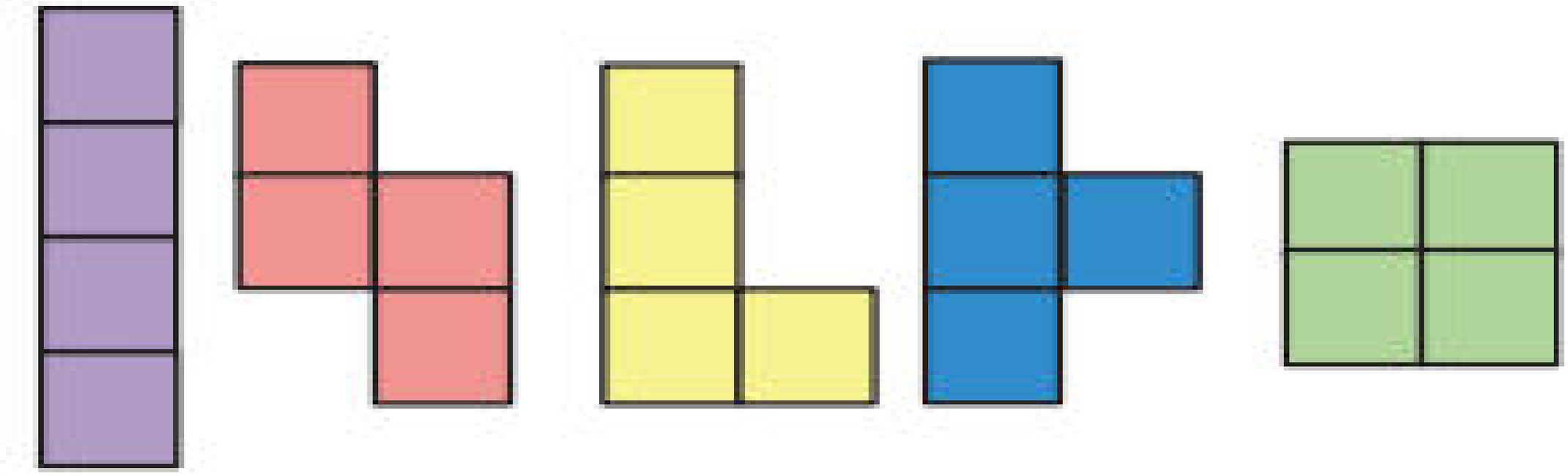
How else can we classify a square?

Trapezoid, Quadrilateral, Rectangle, Parallelogram

Concept Development

(35 minutes)

Tetrominoes



Each of these shapes is called a tetromino. The area of each is measured in **square units.**

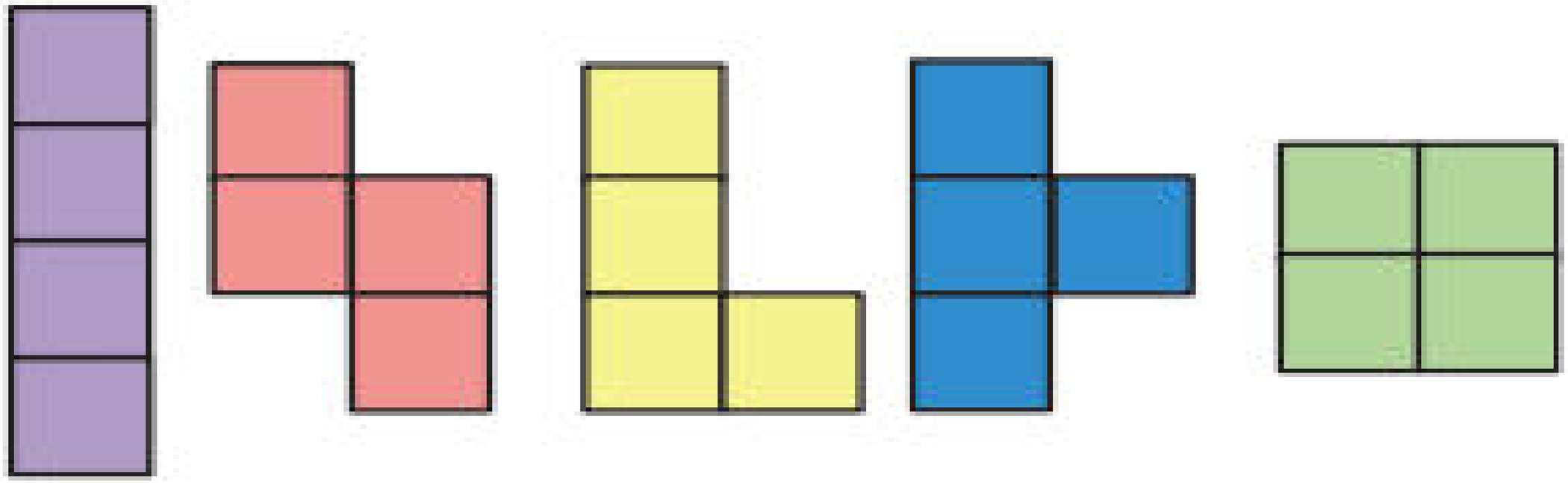
What is the area of each one in square units?

4 square units

Concept Development

(35 minutes)

Tetrominoes



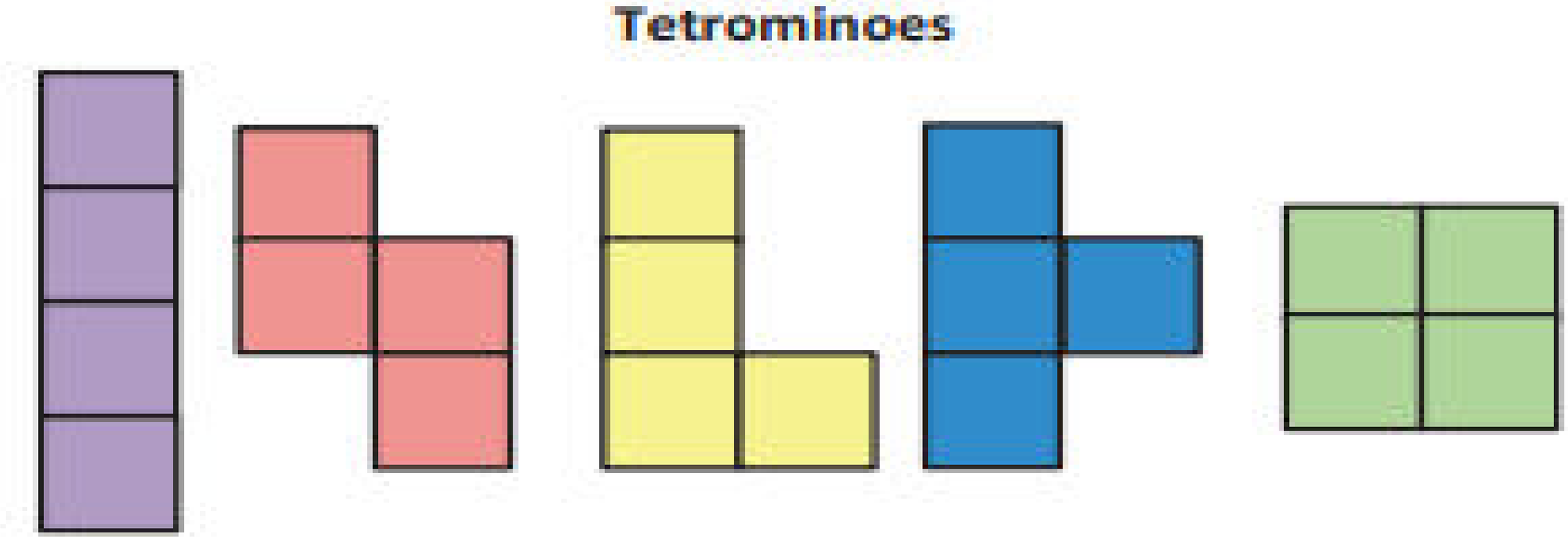
Notice that each shape shares a whole side with another square.

Whisper ***tetromino*** to a partner.

Take a few minutes to make some shapes with tetrominoes.

Concept Development

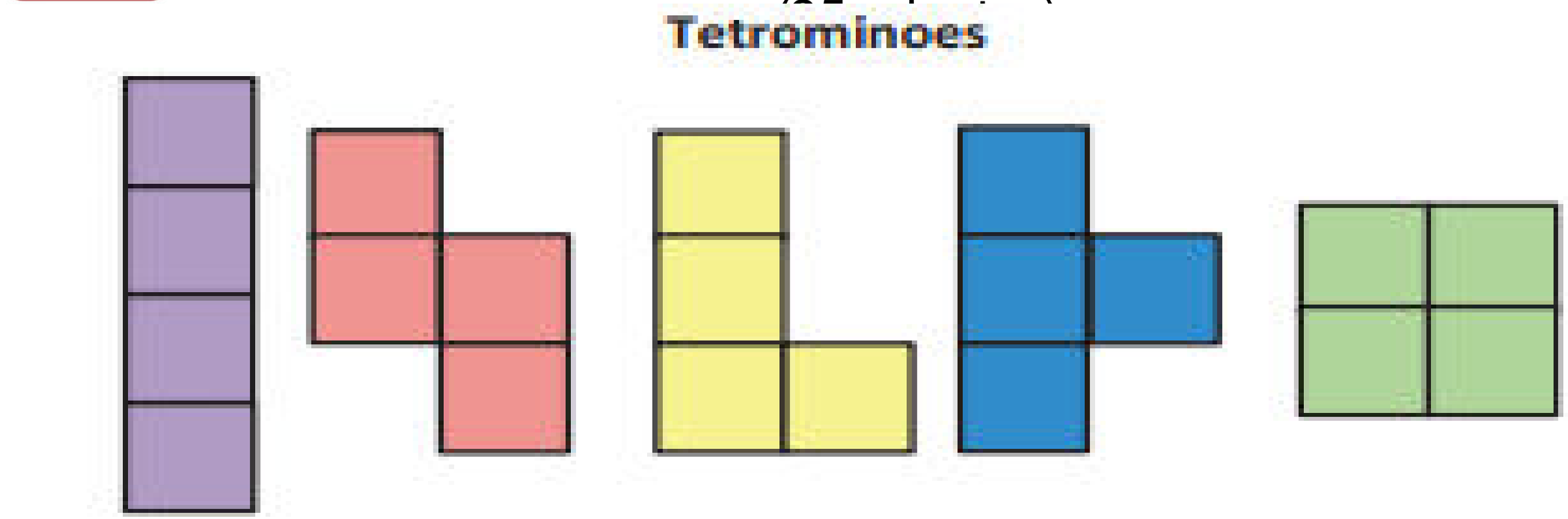
(35 minutes)



To make shapes, sometimes you have to flip or rotate them.

- Look at problem 1 in the problem set.
- How many squares will you color for each tetromino?
- **Color** your grid to **match the tetromino you used**.
- Talk with a partner, how do you know the shapes you made are rectangles?

Concept Development

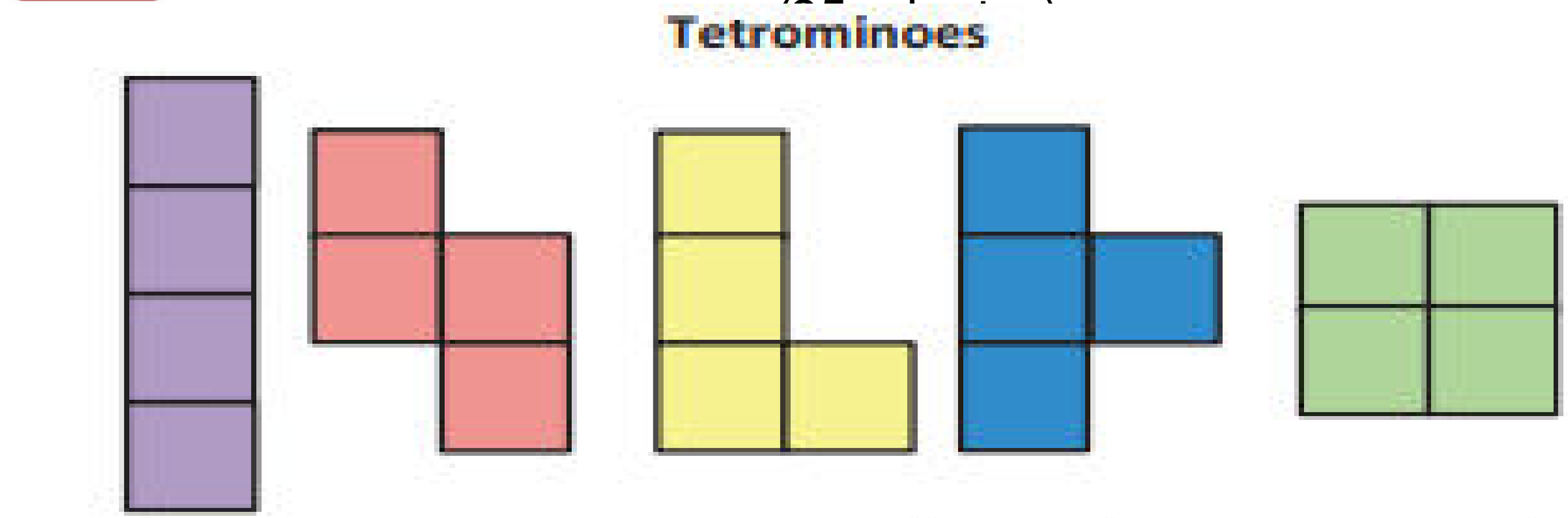


- What is the smallest rectangle you can make with tetrominoes? How do you know?

The long straight tetromino is already a rectangle, or the 2 x 2 tetromino. Both are 4 square units.

- Work with a partner to make the smallest rectangle not using different examples.

Concept Development



- Look at Problem 2. How is it different from problem 1? (read together)
- How many tetrominoes will you use to solve problem 2?

9 tetrominoes

- What will the side lengths be?

6 because the sides of a square are equal

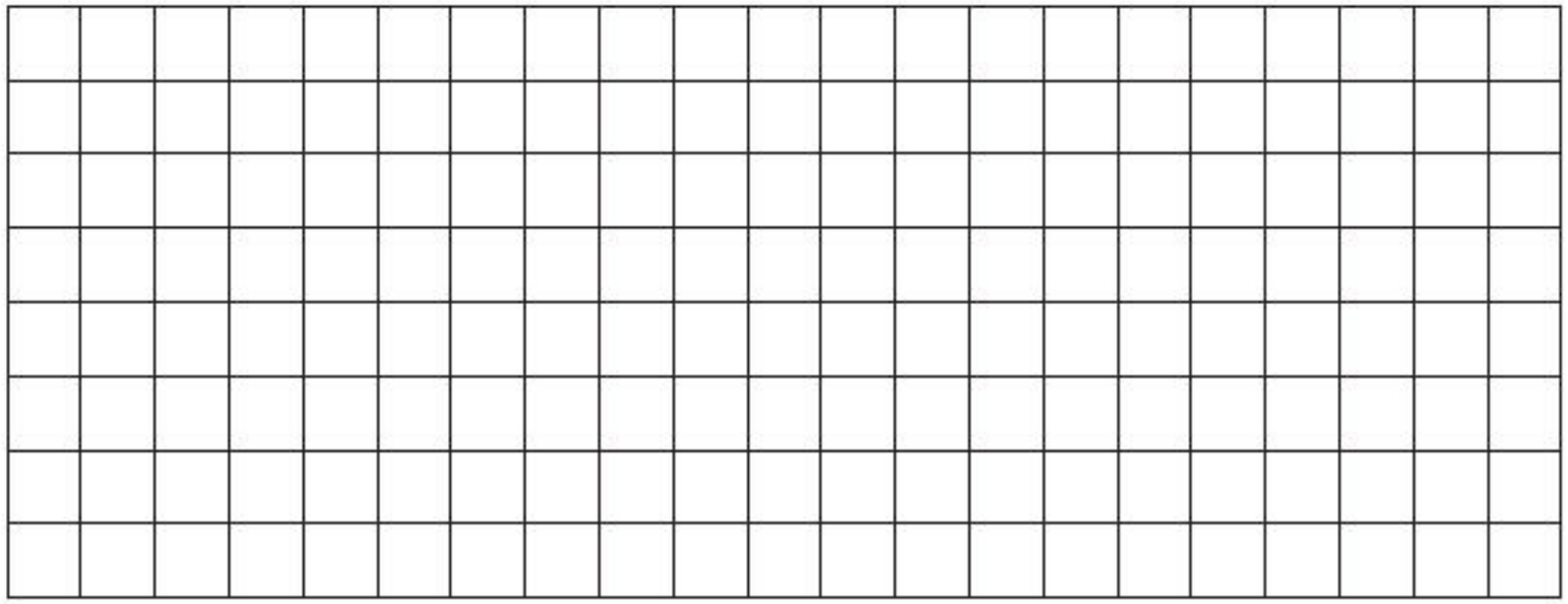
- How could we make this square on our grid to help us?

Problem Set
1 2 3 4 5

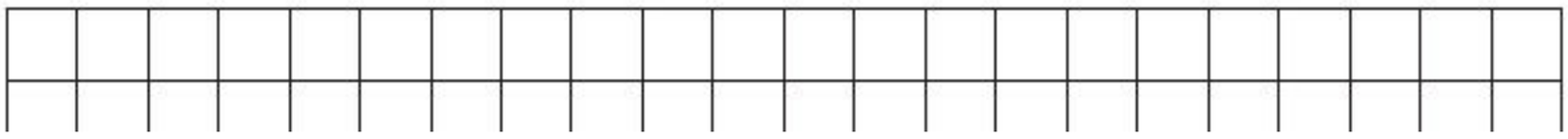
Problem Set

Name _____ Date _____

1. Use tetrominoes to create at least two different rectangles. Then, color the grid below to show how you created your rectangles. You may use the same tetromino more than once.



2. Use tetrominoes to create at least two squares, each with an area of 36 square units. Then, color the grid below to show how you created your squares. You may use the same tetromino more than once.



Exit Ticket (3 minutes)

Name _____ Date _____

Use your tetrominoes to make a rectangle that has an area of 20 square units. Then, color the grid to show how you made your rectangle. You may use the same tetromino more than once.