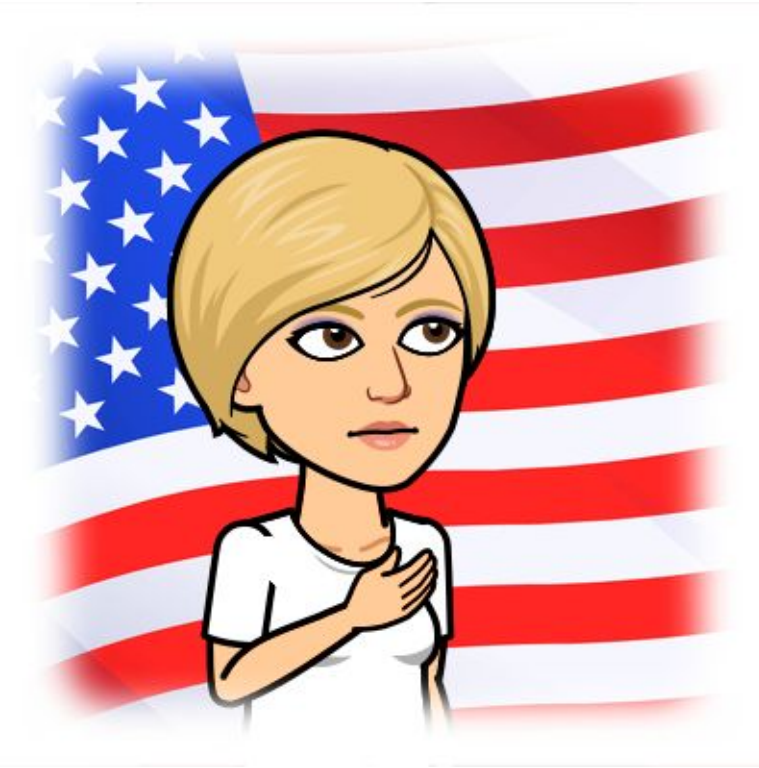


# Today's Materials



- pencil
- calculator

---



# Lots of Flags

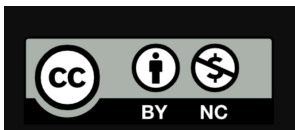
## Lesson 1

CCSS Standards: Building on

- 6.RP.A
- 7.G.A.1

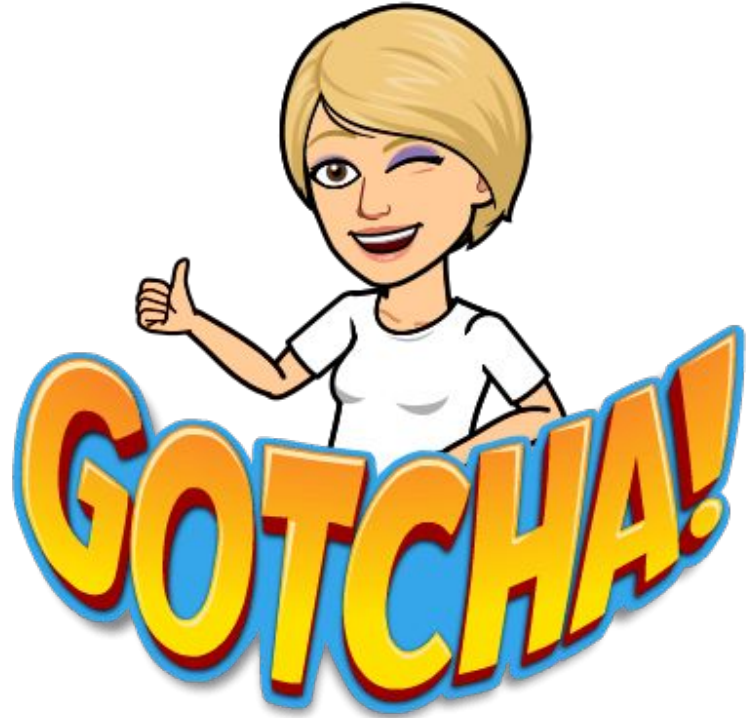
CCSS Standards: Building towards

- 7.RP.A
- 7.RP.A.1
- 7.RP.A.2.a



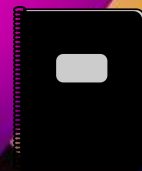
# Today's Goals

- ❑ I remember how to compute percentages.
- ❑ I can find dimensions on scaled copies of a rectangle.

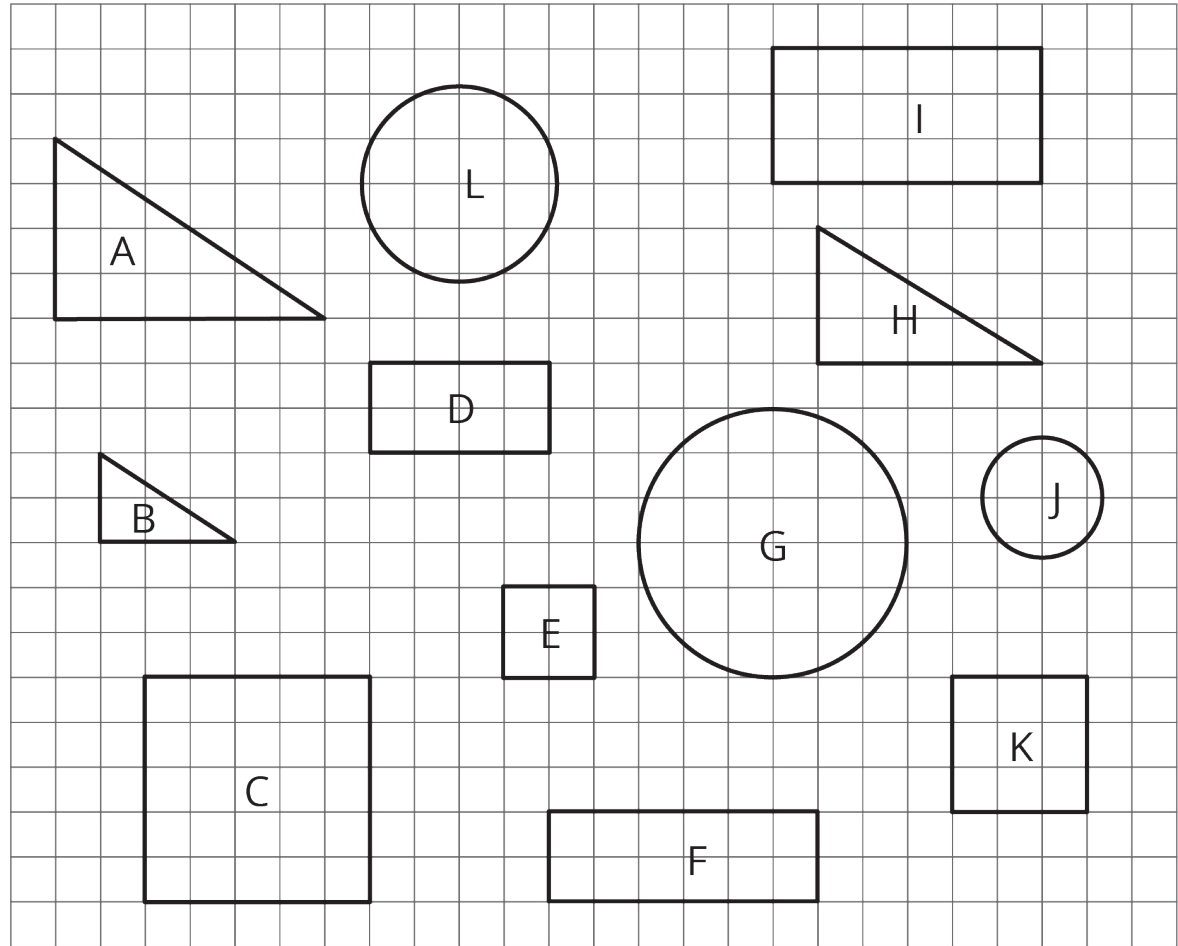


# Scaled or Not?

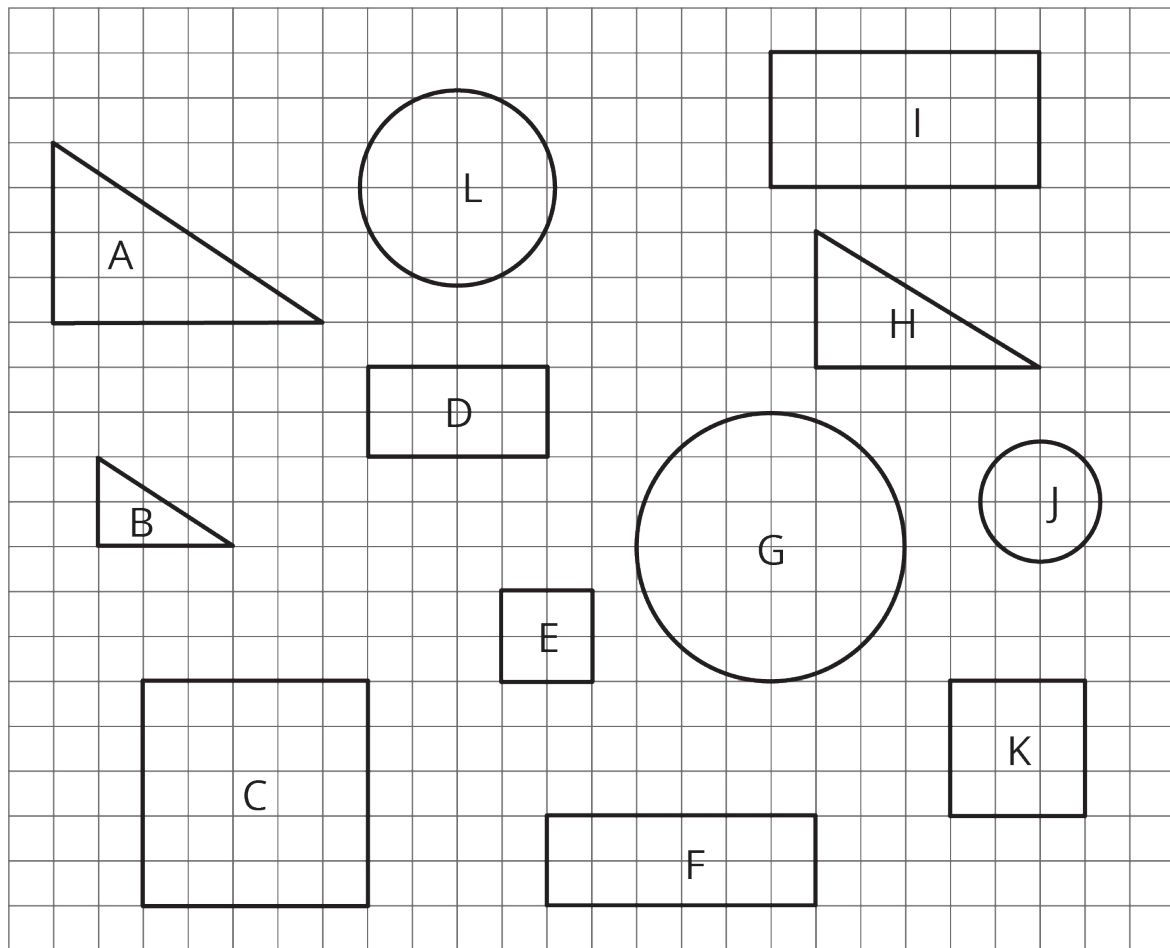
Warm Up



1. Which of the geometric objects are scaled versions of each other?
2. Pick two of the objects that are scaled copies and find the scale factor.



Did you encounter any objects that you initially believed were scaled versions of one another? How did you decide they weren't copies?

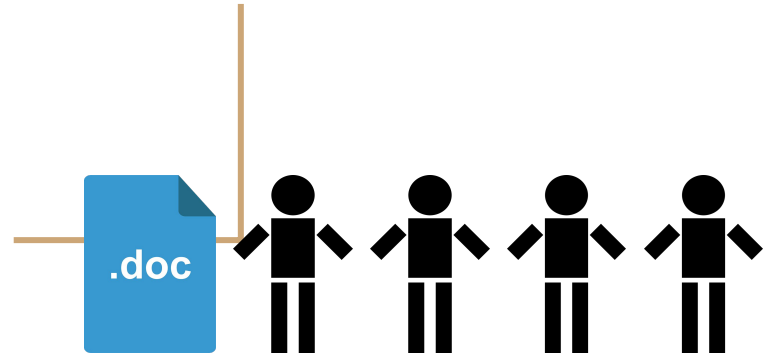


Let's explore the U.S. flag.



# Flags are Many Sizes

Activity 1





The background of the image is a close-up, slightly blurred view of the United States flag, showing the stars and stripes. The text is overlaid on a dark blue rectangular background.

Let's measure the  
dimensions of  
our classroom flag!

The official government flag is the  
size with a ratio **1:1.9**

...so the width is 1.9 times its height.

Many commercial flags are sold in different ratios.

**Does our classroom flag follow the official ratio?**

The United States flag is displayed in many different sizes and for different purposes.

One standard size is 19 feet by 10 feet.

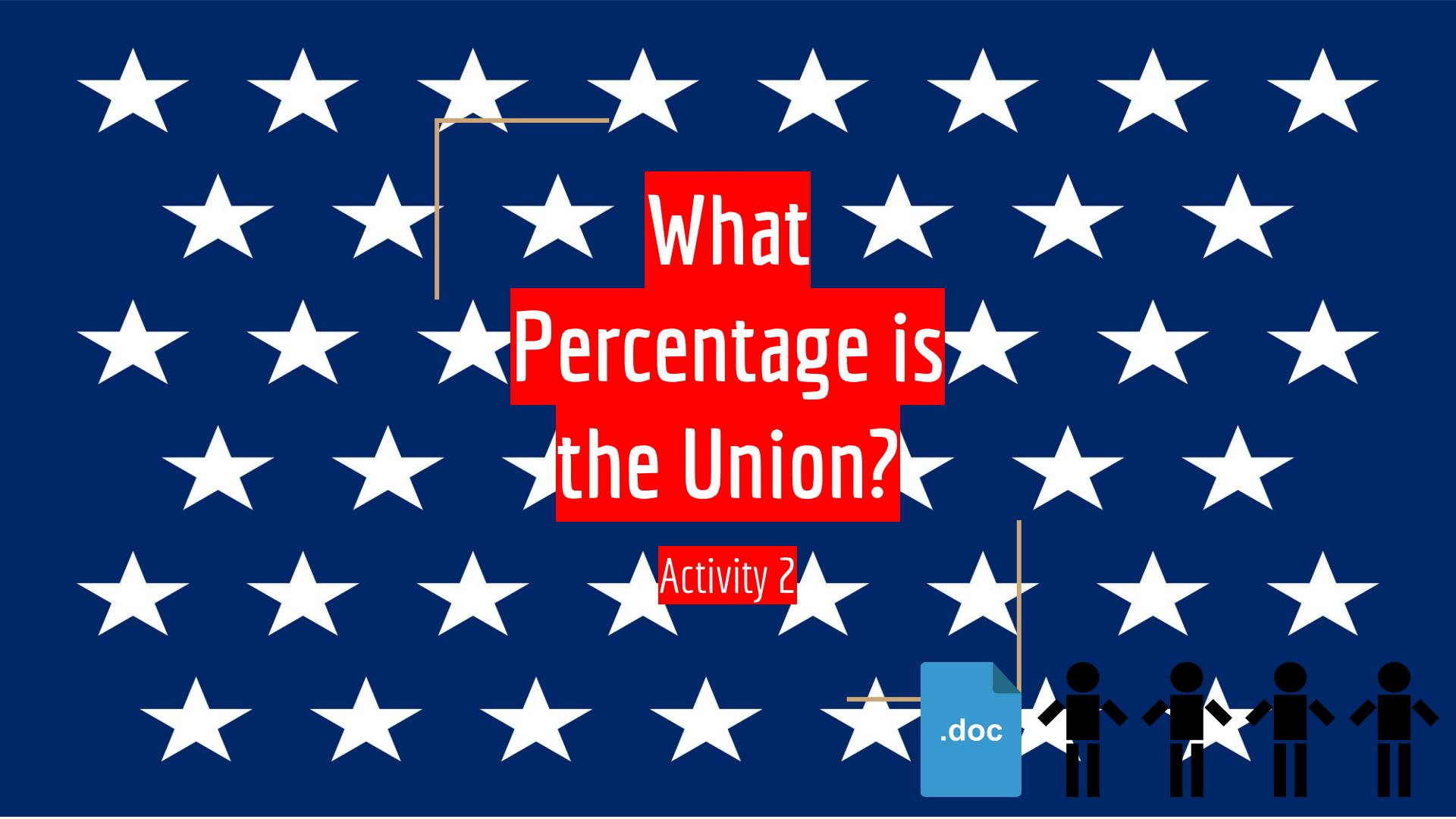
**What would be a possible use  
for a flag this size?**

One standard size for the flag is 19 ft by 10 ft.

On this flag, the union is  $7\frac{5}{8}$  ft by  $5\frac{3}{8}$  ft.

**Work as a team to complete this activity.**



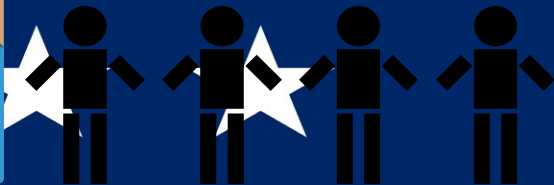


What  
Percentage is  
the Union?

Activity 2



.doc





Now, let's consider  
the area of the U.S. flag.

**On a U.S. flag that is 19 ft by 10 ft,  
the union is  $7\frac{5}{8}$  ft by  $5\frac{3}{8}$  ft.**

For each question, first estimate the answer and then compute the actual percentage.

1. What percentage of the flag is taken up by the union?
2. What percentage of the flag is red? Be prepared to share your reasoning.



**On a U.S. flag that is 19 ft by 10 ft, the union is  $7\frac{5}{8}$  ft by  $5\frac{3}{8}$  ft.  
What percentage of the flag is taken up by the union?**




On a U.S. flag that is 19 ft by 10 ft, the union is  $7\frac{5}{8}$  ft by  $5\frac{3}{8}$  ft.  
What percentage of the flag is red?




## “Are you ready for more?”

The largest U.S. flag in the world is 225 feet by 505 feet.

1. Is the ratio of the length to the width equivalent to  $1 : 1.9$ , the ratio for official government flags?
2. If a square yard of the flag weighs about 3.8 ounces, how much does the entire flag weigh in pounds?

The background of the slide is a stylized American flag with red and white wavy stripes and a blue field with white stars in the upper left corner. There are two thin gold L-shaped corner brackets: one in the top right and one in the bottom left.


How can you tell whether two  
objects are scaled versions of  
one another?

The background of the slide is a stylized American flag with red and white wavy stripes and a blue field with white stars. The text is centered in a white box with a blue border. There are also some thin gold lines in the corners of the slide.

**What properties stay the same when an object is scaled up or down?**

The background of the slide is a stylized American flag with red and white wavy stripes and a blue field with white stars. The text is centered in a white box with a blue border. There are also some faint gold L-shaped corner markers in the top right and bottom left corners.

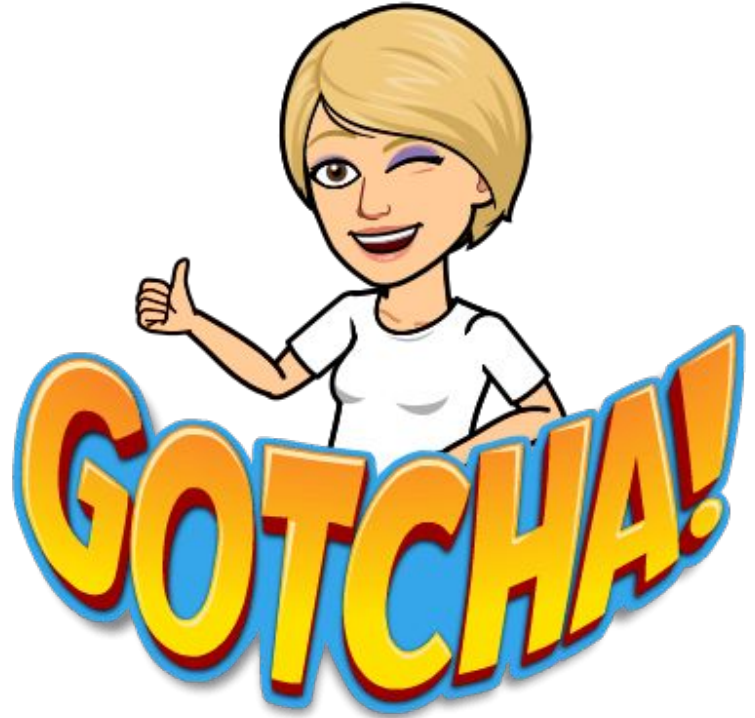
**What strategies did you use  
to find the properties of a  
scaled object?**

The image features a waving American flag as a background. The flag's stars and stripes are clearly visible, with the blue field of stars on the left and the red and white stripes extending across the rest of the frame. A white rectangular text box is centered over the flag, containing a question in blue text. There are also some thin, light-colored lines in the corners of the image, possibly serving as design elements or crop marks.

How did you go about finding the estimated percentage of the total area on the United States flag?

# Today's Goals

- ❑ I remember how to compute percentages.
- ❑ I can find dimensions on scaled copies of a rectangle.





# Colorado State Flag

Cool Down

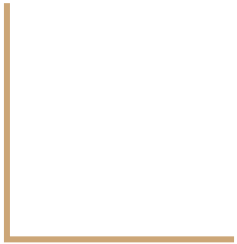


.doc

The side lengths of the state flag of Colorado are in the ratio of 2:3. If a flag is 12 feet long, what is its height?



# Practice Problems



A rectangle has a height to width ratio of 3 : 4.5.

Give two examples of dimensions for rectangles that could be scaled versions of this rectangle.

One rectangle measures 2 units by 7 units.

A second rectangle measures 11 units by 37 units.

Are these two figures scaled versions of each other? If so, find the scale factor. If not, briefly explain why.