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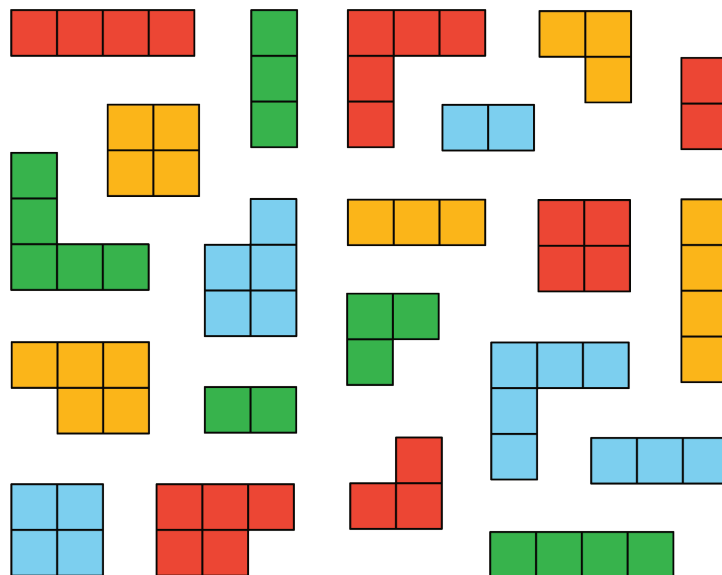
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Unit 2, Lesson 1: Introducing Ratios and Ratio Language

Let's describe two quantities at the same time.

1.1: What Kind and How Many?



1. If you sorted this set by color, how many groups would you have?
2. If you sorted this set by area, how many groups would you have?
3. Think of a third way you could sort these figures. What categories would you use? How many groups would you have?

1.2: The Teacher's Collection

1. Think of a way to sort your teacher's collection into two or three categories. Record your categories in the top row of the table and the amounts in the second row.

category name			
category amount			

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Pause here so your teacher can review your work.

2. Write at least two sentences that describe **ratios** in the collection. Remember, there are many ways to write a ratio:

- The ratio of *one category* to *another category* is _____ to _____.
- The ratio of *one category* to *another category* is _____ : _____.
- There are _____ of *one category* for every _____ of *another category*.

1.3: The Student's Collection

1. Sort your collection into three categories. You can experiment with different ways of arranging these categories. Then, count the items in each category, and record the information in the table.

2. Write at least two sentences that describe **ratios** in the collection. Remember, there are many ways to write a ratio:

- The ratio of *one category* to *another category* is _____ to _____.
- The ratio of *one category* to *another category* is _____ : _____.
- There are _____ of *one category* for every _____ of *another category*.

Pause here so your teacher can review your sentences.

3. Make a visual display of your items that clearly shows one of your statements. Be prepared to share your display with the class.

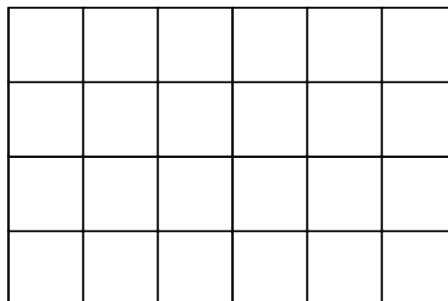
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Are you ready for more?

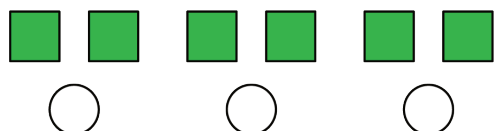
1. Use two colors to shade the rectangle so there are 2 square units of one color for every 1 square unit of the other color.
2. The rectangle you just colored has an area of 24 square units.



Draw a different shape that does *not* have an area of 24 square units, but that can also be shaded with two colors in a 2 : 1 ratio. Shade your new shape using two colors.

Lesson 1 Summary

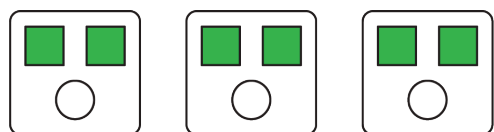
A **ratio** is an association between two or more quantities. There are many ways to describe a situation in terms of ratios. For example, look at this collection:



Here are some correct ways to describe the collection:

- The ratio of squares to circles is 6 : 3.
- The ratio of circles to squares is 3 to 6.

Notice that the shapes can be arranged in equal groups, which allow us to describe the shapes using other numbers.



- There are 2 squares for every 1 circle.
- There is 1 circle for every 2 squares.

Lesson 1 Glossary Terms

- ratio

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Unit 2, Lesson 1: Introducing Ratios and Ratio Language

1. In a fruit basket there are 9 bananas, 4 apples, and 3 plums.

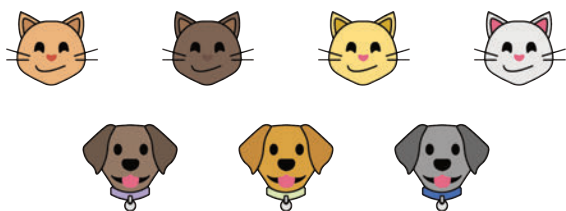
a. The ratio of bananas to apples is _____ : _____.

b. The ratio of plums to apples is _____ to _____.

c. For every _____ apples, there are _____ plums.

d. For every 3 bananas there is one _____.

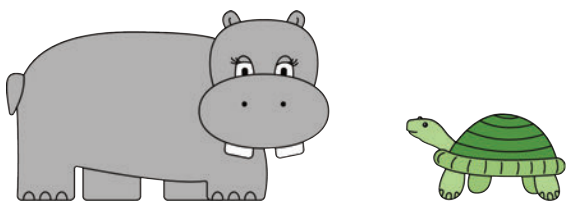
2. Complete the sentences to describe this picture.



a. The ratio of dogs to cats is _____.

b. For every _____ dogs, there are _____ cats.

3. Write two different sentences that use ratios to describe the number of eyes and legs in this picture.



4. Choose an appropriate unit of measurement for each quantity.

a. area of a rectangle

cm

b. volume of a prism

cm³

c. side of a square

cm²

d. area of a square

e. volume of a cube

(from Unit 1, Lesson 17)

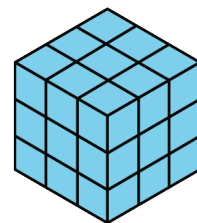
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5. Find the volume and surface area of each prism.

a. Prism A: 3 cm by 3 cm by 3 cm



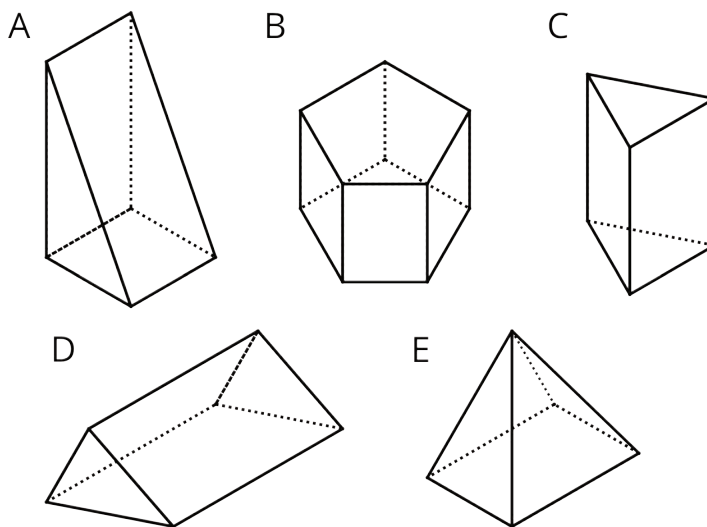
b. Prism B: 5 cm by 5 cm by 1 cm



c. Compare the volumes of the prisms and then their surface areas. Does the prism with the greater volume also have the greater surface area?

(from Unit 1, Lesson 16)

6. Which figure is a triangular prism? Select **all** that apply.



(from Unit 1, Lesson 13)