

### 1.1a Homework: The Language of Ratio

- Simon just purchased six hamsters. Simon is trying to determine how many cages, hamster wheels, water bottles, food dishes, and bags of bark he needs to purchase with his hamsters. The owner of the pet shop told him the following:
  - Two hamsters can live in each cage.
  - You need one hamster wheel per cage.
  - You need one food bowl for every hamster.
  - You need one water bottle for each cage.
  - You need one bag of bark for every three cages.
  - How many of each item should Simon purchase?

Cages: \_\_\_\_\_ Wheels: \_\_\_\_\_ Food Bowls: \_\_\_\_\_ Water Bottles: \_\_\_\_\_ Bags of Bark: \_\_\_\_\_

- Write three different ratio statements about the picture below. Use words like “to”, “per”, “for every”, “each”, and “ratio”. Consider the relationship between birds and branches and also the relationship between birds and body parts of a bird. For example, “Each bird has two wings.”



- Kara’s necklace contains red and yellow beads. The ratio of red beads to yellow beads on Kara’s necklace is 4 to 1.
  - Draw a picture of the beads on Kara’s necklace.
  - Complete the following statements:

The ratio of red beads to yellow beads is \_\_\_\_\_ : \_\_\_\_\_.

The ratio of yellow beads to red beads is \_\_\_\_\_ : \_\_\_\_\_.

The ratio of red beads to total beads is \_\_\_\_\_ : \_\_\_\_\_.
- Give a value for the total number of beads that might be on Kara’s necklace. Give a value for the total number of beads that *cannot* be on Kara’s necklace. Explain.
- A recipe to make Pumpkin Blondies uses 2 cups of Blondie cake mix for each cup of pumpkin puree.
  - Draw a picture of this recipe.
  - Complete the following statements:

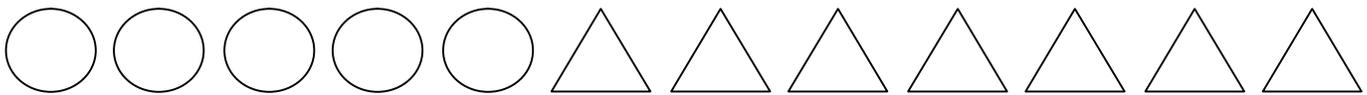
The ratio of \_\_\_\_\_ to \_\_\_\_\_ is 1:2.

The ratio of \_\_\_\_\_ to \_\_\_\_\_ is 2:1.

5. Create a pattern using green and orange circles where the ratio of green circles to orange circles is 5 to 3.
  
6. Create a pattern using green and orange circles where the ratio of orange circles to green circles is 5 to 3.
  
7. Create a pattern using green and orange circles where the ratio of total circles to orange circles is 5 to 3.
  
8. Compare the patterns from the three problems above. They all use the ratio 5 to 3 but the patterns are different. Explain why.

9. George's teacher asked him to create a pattern where the ratio of triangles to circles is 5:7. George

created the following pattern:  



a. Is George's picture correct? Why or why not?  

10. In Lizzy's neighborhood, there are 2 cats for every 5 dogs.

- a. Mr. Beck asked his class to write a ratio statement to show the relationship between cats and dogs in Lizzy's neighborhood. These are the statements made by several students. Circle the names of the students who wrote a correct statement. For the ones that are incorrect, explain why they are incorrect in the space below. 

Eva's Statement: The ratio of cats to dogs is 2:5.

Mariah's Statement: The ratio of dogs to cats is 5:2.

Tom's Statement: Two out of every five animals are cats.

Will's Statement: For every 6 cats, there are 15 dogs.