



In this activity you will work together to use unit rates to solve problems. After completing this activity, discuss and/or present your findings to the rest of the class.



Activity [Page 1.3]

1. Use the TNS activity to answer the following: Suppose you have 4 dogs. How many bags of dog food would you need if you wanted:
 - a. $\frac{1}{2}$ bag per dog?
 - b. $2\frac{1}{2}$ bags per dog?
 - c. $1\frac{1}{4}$ bags per dog?
2. If you have 2 of one quantity for 1 of another quantity, the ratio is 2:1, and the unit rate is 2. Which of the following specifies a unit rate?
 - a. 3 bags of dog food: 1 dog
 - b. 1 bag of dog food per 3 dogs
 - c. Each dog has 4 bags of dog food.
3. The amount of standing room is important for lines and crowds. Which of the following will give a unit rate for the number of feet per person given the ratio 5 feet for every 10 people? Explain your reasoning.
 - a. Divide both numbers by 5.
 - b. Divide both numbers by 10.
 - c. Multiply both numbers by 2.



4. Identify the rates that are equivalent to $\frac{24}{18}$ to 1. Explain your thinking.
- a. $\frac{12}{9}$ to 1 b. $\frac{4}{3}$ to 1 c. $\frac{20}{15}$ to 1 d. $\frac{28}{22}$ to 1
5. Which of the following strategies would you use to find the number of bags of dog food if you have 6 dogs and 44 bags of dog food for each dog? Explain your thinking. (You can check your thinking by using the TNS activity.)
- a. Tom says to make marks by each of the dogs, counting the total number of marks up to 44, until you don't have enough to make another mark by every dog. Then figure out what fraction of the leftover bags would give all 6 dogs the same fraction of a bag.
- b. Terri said she would figure out how close a multiple of 6 gets to 44 and then figure out how to divide the remaining bags into fractions to give every dog the same amount.
- c. Tess said she would figure out how many times she can subtract 6 from 44 and see what is left. Then she would divide the leftover bags into fractional parts so everyone would have the same fraction of a bag.
- d. Tim said he would look at the ratio 44:6 and divide both values in the ratio by 6 to get $\frac{44}{6}$:1.
- e. Taura said she would give every dog lots—maybe 5 bags each would use up 30 bags. Then, she would give the other bags out 1 by 1 until she had less than 6 bags left. She would divide the leftover bags into fractional parts so each dog would have the same fractional amount of dog food.
6. If you went 246 miles on 9 gallons of gas, which of the correct strategies above would be easiest to use to find the number of miles you traveled? Explain why.