

Comparing and Scaling Review Test**Short Answer**

1. Which offer is the better buy?

2-liter bottles of Orange Splash!	$\frac{1}{2}$ -liter bottles of Orange Splash!
6 for \$7.99	\$3.99 per 10-pack

2. A veterinarian's clinic has a patient load of 225 cats and dogs. The ratio of cats to dogs is 2 to 3. How many patients are cats and how many are dogs? Explain your reasoning.
3. The Elsie Dairy uses a machine that fills 35 cartons of milk an hour.
- How many cartons will be filled in 8.5 hours?
 - How long will it take to fill 445 cartons?
4. Henry owns a sneaker shop. The buying price for each sneaker is \$15.
- What is the markup price if he decides to mark up the price by 1165%?
 - What is the selling price?
 - If he pays his employees a 15% commission on a sale, how much money does a salesperson get for selling one pair of sneakers?
 - What is Henry's overall profit on the sale of one pair of sneakers?
5. If Olga buys a goat for 119.99 and sales tax is 13%, how much does Olga pay overall?
6. Sandra buys a \$99 pair of sneakers. She has a coupon for a 25% discount. How much does she pay after the discount?
7. Write $\frac{225}{685}$ in simplest form.
8. Jake sold 88 tickets to the school fair and Jeanne sold 120 tickets. What is the ratio, in simplest form, of the number of tickets Jeanne sold to the number of tickets Jake sold?

Write the ratio in simplest form.

9. $\frac{35 \text{ in.}}{70 \text{ ft}}$

10. One can of soda costs \$0.75 in a vending machine.
A 12-pack of Mountain Dew costs \$2.49 at the grocery store.
How much money would you save by purchasing a dozen cans of Mountain Dew at the grocery store instead of a dozen at the vending machine?
11. The ratio of boys to girls is 1 to 36. Find an equivalent ratio.
12. The ratio of strawberries to raspberries in a fruit smoothie drink is 3 to 18.
What percent of the drink is strawberries?
13. If you pay 2.99 for 6 donuts, what is the unit price?
14. A car travels 226 miles using 12 gallons of gas. At that rate, how far can the car travel using 48 gallons of gas?

Write a unit rate for the situation. Round to the nearest hundredth if necessary.

15. traveling 227 km in 9 h
16. In a survey, Eric, the team manager, asked all 120 soccer players in the league which drink they preferred during and after the game.

Drink	During Game	After Game
Sports Beverage	70	10
Juice	10	80
Water	40	30

Ricardo, the soccer league director, made the following statements based on Eric's survey. For each statement, tell if it is accurate and explain how you made each decision.

- a. **During** the game, players prefer juice to water by a ratio of 4 to 1.
- b. 25% of the players prefer water **after** the game.
- c. More than half of the players prefer a sports drink **during** the game.
17. Find the value of x that will make each proportion true.
- a. $\frac{3}{4} = \frac{24}{x}$
- b. $\frac{2}{3} = \frac{x}{15}$
- c. $\frac{x}{5} = \frac{5}{25}$
- d. $\frac{4}{x} = \frac{10}{30}$

A group of students were planning a picnic for the 30 members of their homeroom. They investigated prices for food and drink at two stores and listed their findings in a table.

Food and Drink Prices

Item	Streamline Market		Bulky Store	
	Quantity	Cost	Quantity	Cost
Cola	6 cans (12 ounces each)	\$1.99	a case of twenty-four cans (12 ounces each)	\$6.99
Ground Beef (for hamburgers)	1 pound (makes four hamburgers)	\$1.39	10 patties (1/4 pound each)	\$4.99
Hamburger Buns	8-count package	\$1.49	12-count package	\$2.09
Potato Chips	small bag (1.5 ounces)	\$.89	Fun Pack (eight 1.5-ounce bags)	\$6.99

18. How much does it cost to make 40 hamburger patties with ground beef purchased from Streamline? Show your work.
19. Which store offers the better buy for cola? Explain how you decided.
20. You need to purchase enough hamburger buns to make 50 sandwiches. Buns come in packages of 8 or 12, depending where you shop. Which store offers the better buy for 50 buns? Can you get an even better deal by combining purchases at both stores? Explain how you decided.
21. There are 80 pretzels in a 16-ounce bag of chocolate covered pretzels.
 - a. Write and solve a proportion that you can use to find the number of chocolate covered pretzels in a 5-ounce bag.
 - b. What is the number of chocolate covered pretzels per ounce?
 - c. How many ounces does each pretzel weigh?
22. Nancy wants to put a birdseed mix in her birdfeeder. The mix is 40% wild bird seed and 60% sunflower seed. Her birdfeeder can hold 8 cups of birdseed. How much wild bird seed does she need to fill the birdfeeder?
23. The school store sells pencils at 24 for \$3.00.
 - a. What are the two unit rates that she might compare?
 - b. Compute each unit rate and tell what it means.
24. Find a value of x that will make each proportion true.

a. $\frac{2}{3} = \frac{x}{24}$	b. $\frac{3}{4} = \frac{18}{x}$	c. $\frac{x}{5} = \frac{4}{20}$
d. $\frac{6}{10} = \frac{x}{15}$	e. $\frac{12}{16} = \frac{x}{20}$	f. $\frac{8}{12} = \frac{14}{x}$

25. This table shows the number of endangered species throughout the world.

Numbers of Endangered Species

	United States only	United States and foreign	Foreign only
Animals	262	51	493
Plants	378	10	1
Total	640	61	494

- About what fraction of the total number of endangered species are found only in foreign countries?
 - How many times more endangered plant species are there in the United States than in foreign countries? Explain your reasoning.
 - About what percent of the total number of endangered animals lives only in the United States?
 - What is the ratio of Endangered Plants to Endangered Animals in the United States only? In foreign countries only?
 - What is the difference between the number of endangered animals in the United States and foreign countries and the number of endangered plants in the United States and foreign countries?
26. Bill has a paper route in his neighborhood. It takes him 70 minutes to deliver newspapers to the 40 customers on his route.
- How long will it take Bill to complete his route if he adds 20 more customers in his neighborhood? Explain your reasoning.
 - Only 50 of Bill's 70 customers take the Sunday paper. About how long does it take Bill to deliver his papers on Sundays?