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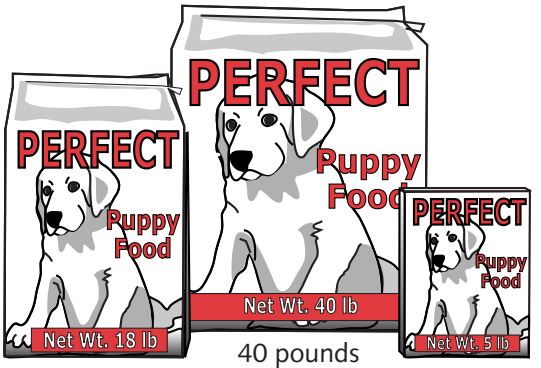
The Best Buy

Have you ever gone to a store to buy something and been bewildered by the choices? Not only may there be many different brands of a product, but often it comes in packages of various sizes, each with a different price. As a smart consumer, you want to get the most for your money. How can you decide which is the best buy?

Suppose you have gone to the pet food store to buy some Perfect Puppy food. The shelves are stocked with bags of Perfect Puppy in three different sizes. The smallest size weighs 5 pounds and costs $3.50. A medium bag holds 18 pounds for $9.00. The largest size contains 40 pounds and is priced at $18.00. How is it possible to compare different prices and sizes?



18 pounds
$9.00

40 pounds
$18.00

5 pounds
$3.50

To find the best buy, you can use rates. A rate is a kind of ratio, a comparison of two numbers. A rate always relates two different kinds of units. The rate "miles per hour," for example, relates units of distance to units of time. For the puppy food, you need to find the relationship between the cost of a bag and the weight.

To find this rate, write a fraction for each bag size. Put the cost in the numerator and the weight in the denominator.

$$\text{Small} = \frac{\$3.50}{5 \text{ pounds}}$$

$$\text{Medium} = \frac{\$9.00}{18 \text{ pounds}}$$

$$\text{Large} = \frac{\$18.00}{40 \text{ pounds}}$$

Now find the unit rate for each size. The unit rate is the rate of 1 unit, that is, when the denominator is 1. Most rates are expressed this way. For example, you might travel 100 miles in 2 hours, but you would probably express the rate as 50 miles per hour, or 50 miles/1 hour. When money is involved, the unit rate is sometimes called the unit cost.

To find the unit cost of the dog food, find the price per pound of each bag. Divide the numerator and denominator by the number in the denominator.

$$\text{Small} = \frac{\$3.50}{5 \text{ pounds}} \div \frac{5}{5} = \frac{\$0.70}{1 \text{ pound}}$$

$$\text{Medium} = \frac{\$9.00}{18 \text{ pounds}} \div \frac{18}{18} = \frac{\$0.50}{1 \text{ pound}}$$

$$\text{Large} = \frac{\$18.00}{40 \text{ pounds}} \div \frac{40}{40} = \frac{\$0.45}{1 \text{ pound}}$$

When you know the price per pound of each bag, the bags are easy to compare. The 40-pound bag has the lowest unit cost, so it has the best price.

Of course, stores usually make it easy to compare prices. On the shelf beneath the item, a price label displays the retail price and the unit cost. So you can leave your calculator at home!

Put an X in the square beside the best answer.

1. The unit price of an item at a store is often found _____.
   - ☐ on a wall chart
   - ☐ in the numerator
   - ☐ on the shelf under the item
   - ☐ on the back of the package

2. The main idea of the article is that _____.
   - ☐ fractions can express rates
   - ☐ prices for dog food vary by the package weight
   - ☐ unit rates are useful for comparing prices
   - ☐ the best buy is always the largest package

3. If a 3-pound bag of nuts costs $9, you can decide that the unit cost would be _____.
   - ☐ $1 per pound
   - ☐ $2 per pound
   - ☐ $3 per pound
   - ☐ $4 per pound

4. What is the first step in finding the best buy among a choice of package sizes?
   - ☐ Select the package with the lowest unit price.
   - ☐ Write the cost and weight of each package as a fraction.
   - ☐ Divide each fraction to find the unit cost of each package.
   - ☐ Compare the unit prices of the packages.

5. Dividing $\frac{\$3.50}{5 \text{ pounds}}$ by $\frac{5}{5}$ results in _____.
   - ☐ a lower price per bag
   - ☐ a higher price per bag
   - ☐ a fraction in lowest terms
   - ☐ a unit fraction

6. In the first paragraph, the word consumer means _____.
   - ☐ diner
   - ☐ shopper
   - ☐ person
   - ☐ owner

Write your answer to the following question on the lines below.

Many products are sold in different sizes. Usually you'll want to save money by buying the size that has the lowest unit cost, but not always. Describe situations where you might choose to buy a size that has a higher unit cost.