Assignment

Write

Explain how to use proportions to solve for the unknown in a percent problem.

Remember

The answer to the percent problem may or may not be the value of the unknown in your proportion. Re-read the problem and ensure that you answer the question being asked.

Practice

1. The cable provider's "triple play" package offers a land line, internet service, and cable TV for one fixed price. If you already subscribe to their cell phone service they offer an additional 12% off the price of the triple play package. If the discounted price of the triple play is $132, what is the price of the package without the discount?
2. The O! Natural Company sells a juice in 1 gallon bottles. The current retail price of the juice is $3.50 for 1 gallon. In order to remain competitive, the company will decrease the price to $3.20.
   a. What percent of the original price are consumers going to pay?
   b. Suppose the company's cost per 1 gallon is $2.70. What is the markup if they sell each gallon at $3.20? What is the markup if they sell each gallon at $3.50?
3. The O! Natural Company is trying to get schools in the state to sell their juice product.
   a. If the sales representative went to 300 schools and convinced 125 to sell their product, what percentage decided to not sell their product? Use two different strategies to calculate the answer.
   b. The sales representative made a deal with the schools for a discount on the individual juice bottles. The company usually sells the bottles to the distributors for $2.25, but they are selling them to the schools for 15% off. For what price will they sell each bottle to the schools?
   c. Suppose the schools pay $2.00 per bottle for the juice and sell it to community members for $2.50 per bottle. What percent markup are they charging?
4. Jillian is shopping for new school supplies. She finds a flyer in the newspaper for her favorite store. They are offering the following coupons.

Office World Sale!	Office World Sale!
All laptops—Buy now and receive a $100 rebate after purchase! *cannot be used with any other coupons	Receive 20% off any one item!

Jillian needs to buy a new laptop for the school year. The list price for the laptop is $479.99. Is it a better deal to use the coupon for the $100 rebate or the 20% off one item? Explain your reasoning.

Stretch

While Emma is shopping with her friend Jacob, they notice a sign in the front of the store.

BACK-TO-SCHOOL SALE!
- 20% off all purchases
- $10.00 student discount

They also notice that the two cashiers are applying the discounts differently. The cashier on their left is taking 20% off the total bill and then subtracting $10.00. The cashier on their right is subtracting $10.00 first and then taking 20% off the total.

In order to get a better deal, should Emma and Jacob go to the cashier on the left or the right? Or does it not matter? Show all of your work and explain your reasoning.

Review

1. Millie is cutting out stars to decorate the gym for the school dance. The number of stars *(s)* she can cut out varies directly with the time *(t)* in minutes she spends cutting out the stars.
   a. Write an equation to show the relationship between *s* and *t*.
   b. Complete the table to show the number of stars Millie is able to cut out for various amounts of time.
   c. Write an equation to represent the relationship between *s* and *t* using the value of *k* you determined from the table.
   d. Graph the data. Label the *x*- and *y*-axes and title your graph.
   e. Did the graph turn out as you expected? Explain.
   f. Explain how to determine the constant of proportionality using the graph.

Time (*t*) (in minutes)	Number of Stars (*s*)	$\frac{s}{t} = k$
	0	.....
12	6	
	15	
44		
50		

2. Determine if there is a proportional relationship between the two quantities. Explain your reasoning.

   a.

A	B
35	92
23	80

   b.

C	D
20	8
12.5	5

3. Determine two equivalent ratios for each ratio given.
   a. $\frac{2}{5}$
   b. 6 yellow : 9 blue