Warm–Up

Directions: Find each product.

1. 300 x 0.5

2. 120 x 0.75

3. 1.5 x 0.5

4. 10.8 x 0.4

5. 20.8 x 0.25

Directions: Complete this page with your teacher and partner.

Terry makes $50 a week babysitting his brothers and sisters. He saves 30% of the money each week to go on a trip with his school. How much does he save each week?

S Underline the question.
This problem is asking me to find _____.

O Identify the facts.
Eliminate the unnecessary facts.
List the necessary facts.

L Write in words what your plan of action will be.

Choose an operation or operations.

V Estimate your answer.
Carry out your plan.

E Does your answer make sense? (Compare your answer to the question.)

Is your answer reasonable? (Compare your answer to the estimate.)

Is your answer accurate? (Check your work.)

Write your answer in a complete sentence.

Directions: Complete this page with your teacher and partner.

Terry makes $50 a week babysitting his brothers and sisters. After saving his money and spending 40% on baseball cards, Terry puts 15% of his weekly earnings in his pocket to spend however he wants during the week. How much does he keep to spend each week?

S Underline the question.
This problem is asking me to find _____.

O Identify the facts.
Eliminate the unnecessary facts.
List the necessary facts.

L Write in words what your plan of action will be.

Choose an operation or operations.

V Estimate your answer.
Carry out your plan.

E Does your answer make sense? (Compare your answer to the question.)

Is your answer reasonable? (Compare your answer to the estimate.)

Is your answer accurate? (Check your work.)
Write your answer in a complete sentence.

Directions: Complete this page with your partner.

Terry makes $50 a week babysitting his brothers and sisters. Besides the money he saves, he also spends 40% each week on baseball cards. How much does he spend on baseball cards each week?

S Underline the question.
This problem is asking me to find _____

_____.

O Identify the facts.
Eliminate the unnecessary facts.
List the necessary facts.

L Write in words what your plan of action will be.

Choose an operation or operations.

V Estimate your answer.
Carry out your plan.

E Does your answer make sense? (Compare your answer to the question.)

Is your answer reasonable? (Compare your answer to the estimate.)

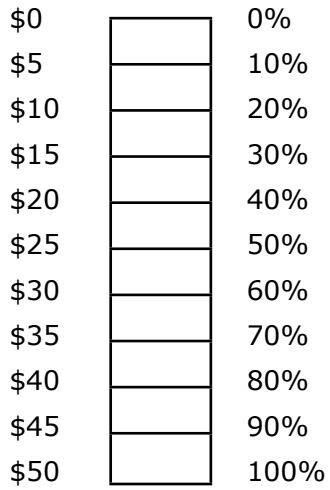
Is your answer accurate? (Check your work.)
Write your answer in a complete sentence.

Directions: Complete this page with your teacher and partner.

The fraction bar model is useful, but what if it is not convenient to draw a model? When we have percents that make the model impractical, we can use equivalent ratios.

Let's look at the problem from S83 another way.

Terry makes $50 a week babysitting his brothers and sisters. He saves 30% of the money each week to go on a trip with his school. How much does he save each week?



We have written our fraction bar as a vertical fraction bar.

Describe how this fraction bar is different from the one on S83.

Describe how it is the same.

Writing our fraction bar in a vertical position will help us to set up the problem in a different way.

Terry's money	Percent	Percent as a ratio	Percent Proportion	Solving the percent proportion for *x*

Is this the same answer we got when we used the fraction bar model on S83 to determine the amount he saved each week?

Explain why.

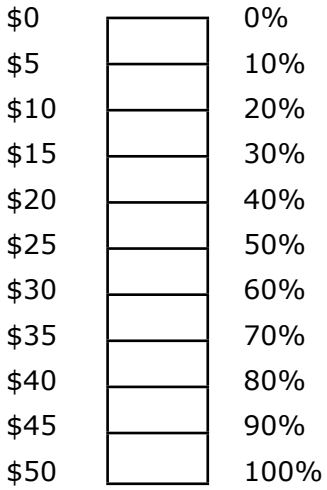
How did we solve the problem on this page?

Make a prediction about whether or not this will work with the other amounts that Terry spent. _____. Explain why or why not.

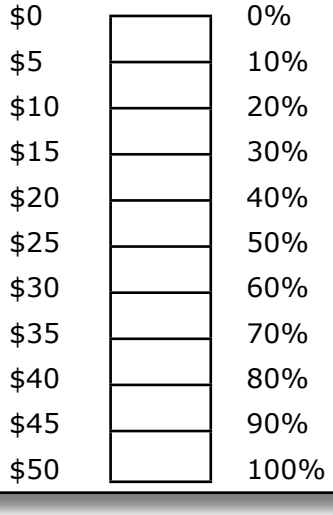
Directions: Complete this page with your partner.

Use the information from the problems on S84 and S85 and a vertical fraction bar to solve the problems using a percent proportion.

Terry's money	Percent	Percent as a ratio	Percent Proportion	Solving the percent proportion for *x*



Terry's money	Percent	Percent as a ratio	Percent Proportion	Solving the percent proportion for *x*



Directions: Complete this page with your partner.

Olivia took a survey of 200 students to find their favorite type of movie. 48% chose comedy. Use the percent proportion to find the number of students who chose comedy as their favorite type of movie.

S Underline the question.
This problem is asking me to find _____

_____.

O Identify the facts.
Eliminate the unnecessary facts.
List the necessary facts.

L Write in words what your plan of action will be.

Choose an operation or operations.

V Estimate your answer.
Carry out your plan.

E Does your answer make sense? (Compare your answer to the question.)

Is your answer reasonable? (Compare your answer to the estimate.)

Is your answer accurate? (Check your work.)
Write your answer in a complete sentence.

Directions: Complete this page with your teacher and partner.

There are many real-life situations in which percents are used. Below are a few examples.

Real-Life Percents	Explanation	Example
1. Tax	Tax is paid at the store on items you purchase or as income tax paid on what you earn.	An item costs $12.00. The tax is 8%. The total cost of the item is $12.00 + tax which is $0.96 for a total of $12.96.
2. Markups and Markdowns	When you purchase an item at a store, the store paid the distributor the wholesale price. The store then "marks" the price up to the retail price to sell it to the customer. When the jeans get old, they "mark" the price down to sell faster.	The Jeans Depot pays $12.00 for each pair of jeans they buy from the factory. They sell the jeans for $24.00. That is a markup of 100%.
3. Gratuities	Paying a tip at a restaurant or for a service such as parking the car or cleaning a hotel room is a gratuity.	A family of six goes to a restaurant. Their total bill is $120. There is a note on the menu that says, for groups of 6 or more, a gratuity of 18% will be added to the bill. The cost of the meal is $120 + $21.60 = $141.60
4. Commissions	The percent of the cost someone earns off of the merchandise they sell.	Mr. Jones sells a car that has a selling price of $18,000. His commission on the sale is 3%. That means he earned $540 for selling the car.
5. Fees	Fees can be charged for many things. Some stores charge a restocking fee that is a percent of the cost of the item if you return it. On-line stores charge shipping fees, which can be a percent of the amount you spend.	You order a DVD set online for a gift. The DVD set has a price of $35.00, but there is a 5% shipping charge. That means the DVD set will cost $35.00 + $1.75 or a total of $36.75 before tax.
6. Shipping and Handling	Most states tax on the shipping and handling charges.	A washer cost $1,000 and the company charges a 10% shipping and handling charge. Sales tax is 7%. This means the cost is $1,000 + $100 = $1,100. Now add the tax $1,100 + $77 = $1,177.

Directions: Complete the following SOLVE problem with your teacher and partner.

Jeannie bought concert tickets online for $130.00. There is a 12% convenience fee. How much is the fee?

S Underline the question.
This problem is asking me to find _____
_____.

O Identify the facts.
Eliminate the unnecessary facts.
List the necessary facts.

L Write in words what your plan of action will be.

Choose an operation or operations.

V Estimate your answer.
Carry out your plan.

E Does your answer make sense? (Compare your answer to the question.)

Is your answer reasonable? (Compare your answer to the estimate.)

Is your answer accurate? (Check your work.)

Write your answer in a complete sentence.

Directions: Complete the following SOLVE problem with your partner.

Jillian works at Sports Store. She just got a shipment of new baseball gloves. The wholesale price for the baseball gloves is $10.50. Jillian has been told to give the gloves a mark-up of 80% before putting them on the shelf to sell. What should she put as the selling price of the gloves?

S Underline the question.
This problem is asking me to find _____
_____.

O Identify the facts.
Eliminate the unnecessary facts.
List the necessary facts.

L Write in words what your plan of action will be.

Choose an operation or operations.

V Estimate your answer.
Carry out your plan.

E Does your answer make sense? (Compare your answer to the question.)

Is your answer reasonable? (Compare your answer to the estimate.)

Is your answer accurate? (Check your work.)

Write your answer in a complete sentence.

Directions: Complete the following SOLVE problem with your partner.

Mr. Sheldon took his family out to dinner. The total cost of the dinner without tax was $52.00. The tax in their state is 8%. Mr. Sheldon would also like to leave a tip of 18% of the bill, not including the tax. How much will the entire dinner cost Mr. Sheldon, including tax and tip?

S Underline the question.
This problem is asking me to find _____

_____.

O Identify the facts.
Eliminate the unnecessary facts.
List the necessary facts.

L Write in words what your plan of action will be.

Choose an operation or operations.

V Estimate your answer.
Carry out your plan.

E Does your answer make sense? (Compare your answer to the question.)

Is your answer reasonable? (Compare your answer to the estimate.)

Is your answer accurate? (Check your work.)
Write your answer in a complete sentence.

Directions: Complete the following SOLVE problem with your partner.

Betsy works at an electronics store. She gets a 22% commission for every computer she sells. This week, she sold $2,540 worth of computers. How much money should she expect in her commission check?

S Underline the question.
This problem is asking me to find _____

_____.

O Identify the facts.
Eliminate the unnecessary facts.
List the necessary facts.

L Write in words what your plan of action will be.

Choose an operation or operations.

V Estimate your answer.
Carry out your plan.

E Does your answer make sense? (Compare your answer to the question.)

Is your answer reasonable? (Compare your answer to the estimate.)

Is your answer accurate? (Check your work.)
Write your answer in a complete sentence.

Directions: Complete the following SOLVE problem with your partner.

Norma is going shopping for new clothes. The store she is shopping at is having a 25% off everything sale. Norma also has a 10% off coupon. She has picked out two pair of jeans and three shirts. Her purchases come to a total of $212.45 before any of the discounts. How much will she have to pay after the discounts, not including the tax?

S Underline the question.
This problem is asking me to find _____

_____.

O Identify the facts.
Eliminate the unnecessary facts.
List the necessary facts.

L Write in words what your plan of action will be.

Choose an operation or operations.

V Estimate your answer.
Carry out your plan.

E Does your answer make sense? (Compare your answer to the question.)

Is your answer reasonable? (Compare your answer to the estimate.)

Is your answer accurate? (Check your work.)
Write your answer in a complete sentence.

Directions: Complete this page with your partner.

Look back at the SOLVE problem on page S94. When stores have more than one "percent off" coupon, they take off the percent of one coupon, then apply the percent of the second coupon to the remaining price.

Here is a situation which might help explain why.

Mrs. Roberts wanted to buy herself a pair of diamond earrings. The one-carat diamond earrings normally cost $1,200. This weekend they are on sale for 60% off. Saturday morning between 7 and 9 am, they are an additional 15% off. Mrs. Roberts also got a 30% off coupon in the mail, as long as she uses her store credit card. Find the cost of the diamond earrings, once all discounts are taken.

Discounts applied separately Discounts together

Homework

Name _____ **Date** _____

Directions: Complete each problem.

1. Use the fraction strip to find 60% of 330.

2. Use the fraction strip to find 45% of 600.

3. What is 42% of 450?

4. What is 79% of 800?

5. Tiffany sells cars. She gets an 18% commission. How much will she make on a $28,000 car?

6. In a survey, 30% of 180 students said math was their favorite subject. How many students chose math?

7. Misty returned a $655 washing machine. The store charges a 12% restocking fee. How much of her money will Misty get back?

8. Jeffrey ate out for lunch. His meal cost $10.50. He would like to leave a 18% tip. What is the total cost?

9. Pam works for a toy store. A new shipment of games just arrived. The wholesale price was $9.00, and the store has a 120% mark up. What is the retail price?

10. Trina is purchasing a new bike. The store is having a 20% off sale, and she has a 10% coupon. The original price of the bike is $89.75. What is the final price?