

Lesson 3.4 Applications of Percent

Day 1

Teach objective

Assignment - Guided practice and Independent practice completed as a class

Day 2

Review

Cooperative (elbow buddy) assignment 3-4 practice and problem solving: D

3-4 Practice and problem solving: A/B

Login to Go Math

Go to the Resources Tab

Click on the Student Online Edition (yellow open book)

This will take you to another window to an interactive student edition textbook.

Go to page 103

Answers to “reflect”, Explore activity” and “your turn” questions

1. \$1; \$21
2. $200 + (2 \times .03 \times 200)$
3. \$80 ; \$480
4. \$34.13

For answers to the guided practice and independent practice, see Coach Gammon.

Additional web sites

<https://www.youtube.com/watch?v=ZWCXrbnMN-E>

<https://www.youtube.com/watch?v=zLlZbPZZl7o>

Remember, on the online edition, you can click on the “math on the spot” for a little extra teaching from Prof Burger. If you only have your book, use a QR scanner on the “math on the spot”

Lesson 3.4

Applications of Percent

How do you use percents to solve problems?

Convert percents into _____ and multiply it to find the amount of _____, a tip or _____.

You calculate the percent of increase / decrease by _____ the amount of _____ by the original amount.

What is the decimal of each percentage?

$8.25\% = \underline{\hspace{2cm}}$

$15\% = \underline{\hspace{2cm}}$

$300\% = \underline{\hspace{2cm}}$

$5\% = \underline{\hspace{2cm}}$

$113\% = \underline{\hspace{2cm}}$

$21.6\% = \underline{\hspace{2cm}}$

Vocab

_____ - A percent of the cost of an item, which is charged by governments to raise money.

_____ - A fixed percent of the principal. It is found using the formula $I = prt$.

P = principal, r = rate of Interest, T = time

_____ - The original amount of money deposited or borrowed.

example 3

The Maxwell family goes out for dinner, and the price of the meal is \$60. The sales tax on the meal is 7%, and they also want to leave a 15% tip. What is the total cost of the meal?

Analyze Information

Identify the important information.

- The bill for the meal is \$60.
- The sales tax is 7%, or 0.07.
- The tip rate is 15%, or 0.15.

The total cost will be the sum of the bill for the meal, the sales tax, and the tip.

Formulate a Plan

Calculate the sales tax separately, then calculate the tip, and then add the sales tax and the tip to the bill for the meal to find the total.

Justify and Evaluate

Estimate the sales tax and tip. Sales tax is about 10% plus 15% for tip gives 25%. Find 25% of the bill: $0.25 \times \$60 = \15 . Add this to the bill: $\$60 + \$15 = \$75$. The total cost should be about \$75.

Solve

Sales tax: $0.07 \times \$60 = \4.20 Tip: $0.15 \times \$60 = \9.00

Meal + Sales tax + Tip = Total cost

$\$60 + \$4.20 + \$9 = \73.20

The total cost is \$73.20.

Lesson 3.4

Applications of Percent

How do you use percents to solve problems?

Convert percents into decimals and multiply it to find the amount of sales tax, a tip or simple interest.

You calculate the percent of increase / decrease by dividing the amount of change by the original amount.

What is the decimal of each percentage?

$$8.25\% = \underline{.0825}$$

$$15\% = \underline{.15}$$

$$300\% = \underline{3}$$

$$5\% = \underline{.05}$$

$$113\% = \underline{1.13}$$

$$21.6\% = \underline{.216}$$

locub

Sales Tax - A percent of the cost of an item, which is charged by governments to raise money.

Simple interest - A fixed percent of the principal.

It is found using the formula $I = prt$.

P = principal, r = rate of Interest, T = time

Principal - The original amount of money deposited or borrowed.

example 3

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Applications of Percent

Practice and Problem Solving: D

Complete the table to find the amount of sales tax to the nearest whole cent. The first one has been done for you.

1.

Sale Amount	5% Sales Tax
\$50	$0.05 \times \$50 = 2.5 = \2.50
\$120	
\$480	
\$2,240	
\$12,500	

Complete the table. The first one has been done for you.

2.

Principal	Rate	Time	Interest Earned
\$400	5%	2 years	\$40
\$950	10%	5 years	
\$50	4%	1 year	
\$1,000	8%	2 years	

Write the correct answer. The first one has been done for you.

3. Karl just had a birthday. Karl's age is now 50% of his uncle's age. Karl's uncle is 32 years old. How old is Karl?

$0.5 \times 32 = 16$, Karl is 16 years old.

4. The cost of Jacquie's gym membership is \$20 per month. Jacquie gets a 10% discount of the monthly cost in any month in which she refers a friend who also becomes a member. How much does Jacquie save in a month when one of her friends joins the gym?

5. Yesterday Tyler ate lunch at his local diner. The bill for his meal came to \$8.40, not including sales tax. Tyler wants to leave a 15% tip for his waiter. How much should his tip be?

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Applications of Percent

Practice and Problem Solving: A/B

1. Complete the table.

Sale Amount	5% Sales Tax	Total Amount Paid
\$67.50		
\$98.75		
\$399.79		
\$1250.00		
\$12,500.00		

2. Complete the table.

Principal	Annual Rate	Time	Interest Earned	New Balance
\$300	3%	4 years		
\$450		3 years	\$67.50	
\$500	4.5%		\$112.50	
	8%	2 years	\$108.00	

Solve.

3. Joanna wants to buy a car. Her parents loan her \$5,000 for 5 years at 5% simple interest. How much will Joanna pay in interest?

4. This month Salesperson A made 11% of \$67,530. Salesperson B made 8% of \$85,740. Who made more commission this month? How much did that salesperson make?

5. Jon earned \$38,000 last year. He paid \$6,840 for entertainment. What percent of his earnings did Jon pay in entertainment expenses?

6. Nora makes \$3,000 a month. The circle graph shows how she spends her money. How much money does Nora spend on each category?

- a. rent _____
- b. food _____
- c. medical _____
- d. clothes _____
- e. miscellaneous _____

