

Percent Applications

Objective 1: Percent Equation

Recall that several percentages are easier to work with as fractions. Here are some examples.

Percent	Fraction

Example: What is 75% of 400?

Example: 70 is 40% of what?

Example: 95 is what percent of 190?

Pause the video and try these problems.

Solve each problem. Round to 2 decimal places when necessary.

1. What is 67% of 300?

2. 90 is what percent of 144?

3. 23 is 14% of what number?

Restart when you are ready to check your answers.

Objective 2: Percent Proportion

Per cent means out of 100.

$$\frac{\textit{part}}{\textit{whole}} = \frac{\textit{percent}}{100}$$

Example: 20% of 75 is what?

Part is Percent of Whole

Example: 60 is 15% of what?

Example: 80 is what percent of 500?

Example: What percent of 200 is 450?

Pause the video and try these problems.

Use the percent proportion to solve each problem. Round to 2 decimal places when necessary.

1. What is 40% of 920?

2. 80 is what percent of 32?

3. 45 is 25% of what number?

Restart when you are ready to check your answers.

Objective 3: Percent Applications

Example: Mackenzie has 9% of her earnings automatically deposited into her savings account. This way she puts \$270 into her savings account each month. What is her monthly earnings?

Example: Ethan had budgeted \$320 for textbooks, but ended up spending \$375. The amount he spent was what percent of his budget? Round your answer to a tenth of a percent.

Example: Owen earned a score of 85% on his test. There were 80 problems on the test. How many did he do correctly?

Example: A food label indicates one serving of cereal contains 250 calories, of which 90 calories are provided by fat. What percent fat does the food source contain?

Example: A food label indicates that each serving will have 80 grams of carbohydrates. That translates into 320 food calories (or kilocalories). If there are a total of 608 kilocalories in each serving, what percent is carbohydrates?

Pause the video and try these problems.

Solve each of the following problems.

1. Deidrick raised \$3,128 for the Leukemia Foundation. He was hoping to raise \$4,000. His total was what percent of what he had hoped to raise?

2. The price of gas is on the rise in Santa Fe, New Mexico. Today a gallon costs \$3.79. This is 126% of what it was last week. According to this, how much did a gallon of gas cost last week in Santa Fe, New Mexico?

Restart when you are ready to check your answers.

Objective 4: Calculating Tax and Discounts

Let's say you want to buy an item that costs \$200. The tax rate is 5%. How much tax do you pay?

Example: Robyn bought a printer priced at \$267.95. The sales tax rate was 7.5%. How much did she pay for the printer?

Example: Louis purchased 10 pounds of steak. His final bill was \$73.05. Sales tax was 8%. What was the original price of the steak?

Example: Janice bought a dress for \$37.80. The dress was on sale for 20% off. What was the original price before the discount?

Example: Noah bought toner for his printer. He paid \$29.16. The price tag read \$27.00. What was the sales tax rate?

Example: Yank's Hardware store just put their paint on sale for 15% off. If the original price for a gallon of latex enamel was \$35, what is the sale price?

Objective 5: Percent Increase or Decrease

We are often interested in how much something has gone up or down.

Average Price for a Loaf of Bread	
1970	25 cents
1980	50 cents
1990	70 cents

The price rose by 100% between 1970 and 1980.

The price only went up by 40% between 1980 and 1990.

$$\text{percent increase} = \frac{\text{amount of increase}}{\text{original}}$$

$$\text{percent decrease} = \frac{\text{amount of decrease}}{\text{original}}$$

Example: The price of oatmeal has gone up from \$4.50 per box to \$6.75 per box. Find the percent increase.

Example: Tessie had been paying \$65 a month for electricity at her apartment. Now she is more careful about turning off lights and unplugging appliances that are not being used. Her electric bill has gone down to \$50 a month. What is the percent decrease of her bill?

Example: Kiley and Juanita paid a total of \$65 for their meal. Their bill was for \$54.25. What was the tip rate that they left for the server?

Example: Ray made \$1365 on an investment. His broker told him that he had cleared 15% on his money. How much had Ray invested?

Restart when you are ready to check your answers.