

## Application Problems Proportions and Percents Practice Problems

Now you get a chance to work out some problems. You will need a piece of paper and a pencil to complete the practice problems. You may use a calculator if you would like. Study each of these problems carefully; you will see similar problems on the lesson knowledge check.

- 1) A salesperson makes a commission of 12% on each sale. How much is the commission if a sale of \$9,500 is made?
  
- 2) An assembly line worker can assemble 20 parts of a product in one hour. If the worker can increase the assembly speed by 35%, how many more parts per hour would he be able to produce?
  
- 3) A computer software engineer in the Silicon Valley makes \$72,000 annually. What would this engineer's new annual salary be if she were to receive an 8% raise?
  
- 4) Ten years ago, the average computer programmer earned an annual income of \$19,200. Today, on average, a computer programmer earns \$42,000 annually. By what percent has the salary increased?
  
- 5) In a particular city, a sales tax of 6.5% is charged on items purchased in local stores. If the tax on an item is \$2.99, what is the price of the item?
  
- 6) A salesman, who makes a commission of 16.25% on each sale, earns \$152.39 in commission on a particular sale. Rounded to the nearest dollar, what is the amount of the sale?
  
- 7) A computer shows that 7.2 gigabytes of space is being used, which is 12% of the storage capacity. What is the total storage capacity for this computer?
  
- 8) A keyboard is on sale for 10% off the marked price. If the marked price is \$34.95, what is the sale price? (Round to two decimal places.)

- 9) A sales clerk who makes \$365 per pay check receives a 7% raise. How much is her new monthly salary?
- 10) An ink cartridge which originally sells for \$55.00 is marked down to \$46.75. By what percent has it been marked down?
- 11) On a computer screen when the viewing window is set to 100%, 5 inches equals 5 inches in real life. If the viewing window has been zoomed in to 120%, 5 inches on the screen will now be how long in real life?
- 12) On an exam with 35 questions, a student scores 40%. How many questions did this student get correct?
- 13) A computer mouse, which weighs 96 grams, contains 35 grams of plastic casing. What percent of the weight is made up of the plastic casing?
- 14) Five years ago a secretary with minimal computer skills made \$15,200 annually. A secretary for the same company with advanced computer skills made \$22,920 annually. Comparing the salaries of the two secretaries, what is the percent of annual salary increase for a secretary with advanced computer skills?
- 15) An IT tech runs a computer scan and determines that 48.75% of the programs on a customer's computer have been infected with a virus. If the total number of programs infected with the virus is 78, how many programs are currently loaded on this computer?
- 16) A salesperson makes a commission of 12% on the total amount of each sale. In one month, she makes a total of \$8,520 in sales. How much has she made in commission?

17) A salesperson receives a salary of \$850 per month plus a commission of 8.5% on her sales. If, in a particular month, she sells \$22,800 worth of merchandise, what will her total monthly earnings be?

18) A man borrows \$1,150 from a loan company. If he makes 12 equal monthly payments of \$130.60, what percent of the loan is he paying in simple interest?

**Resource:**

Practice exercises adapted from:

Ellis, W., & Burzynski, D. (2010, August 18). *Ratios and Rates: Applications of Percents*. Retrieved from: <http://cnx.org/content/m35007/1.2/>

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