

6-4 Employee Benefits

Exercises

1. Ali has worked at a fashion magazine for the last 5 years. Her current annual salary is \$64,000. When she was hired, she was told that she had four days of paid vacation time. For each year that she worked at the magazine, she would gain another three days of paid vacation time to a maximum of 26 days. How many paid vacation days does she now get at the end of five years of employment?
2. Ina's employer offers a sliding paid vacation. When she started work, she was given two paid days of vacation. For each four-month period she stays at the job, her vacation is increased by one day.
 - a. Let x represent the number of 4-month periods worked and y represent the total number of vacation days. Write an equation that models the relationship between these variables.
 - b. How much vacation time will she have after working for this employer for 6.5 years?
3. When Tyler started at his current job, his employer gave him five days of paid vacation time with a promise of five additional paid vacation days for each two-year period he remains with the company to a maximum of five work weeks of paid vacation time.
 - a. Let x represent the number of years he has worked for this employer and y represent the number of paid vacation days he has earned. Write an equation that models the relationship of these variables.
 - b. It has been eight years since Tyler began working for this employer. How many paid vacation days has he earned?
 - c. When will Tyler reach the maximum number of paid vacation days allowable?
4. When Alton started his current job, his employer told him that he had one day of paid vacation until he reaches his first year with the company. Then, at the end of the first year, he would receive three vacation days. After each year, his number of vacation days would triple up to 27 days of paid vacation.
 - a. Let x represent the number of years worked and y represent the number of paid vacation days. Write an equation that models the relationship between these variables.
 - b. How many vacation days will he have earned after two years?
 - c. In what year will he have maxed out his vacation days?

5. Martha's employee benefits include family health care coverage. She contributes 18% of the cost. Martha gets paid biweekly and \$108.00 is taken out of each paycheck for family health care coverage. How much does her employer contribute annually for the family coverage?
6. Rachel contributes 20% of the cost of her individual health care. This is a \$38 deduction from each of her weekly paychecks. What is the total value of her individual coverage for the year?
7. At Chocolatier Incorporated, there are two factors that determine the cost of health care. If an employee makes less than \$65,000 per year, he pays \$52 per month for individual coverage and \$98 per month for family coverage. If an employee makes at least \$65,000 per year, individual coverage is \$67 per month and family coverage is \$122 per month.
 - a. Graham makes \$62,800 per year. He has individual health care. His yearly contribution is 10% of the total cost. How much does his employer contribute?
 - b. Claudia's annual salary is \$75,400. She has family health care. Her employer contributes \$1,052 per month towards her total coverage cost. What percent does Claudia contribute toward the total coverage? Round to the nearest tenth of a percent.
8. Dan's employee benefits include health care coverage. His employer covers 78% of the cost, which is a contribution of \$1,599.78 towards the total coverage amount. How much does Dan pay for his coverage?
9. Liz works at Food For Thought magazine. Her employer offers her a pension. Liz's employer uses a formula to calculate the pension. Retiring employees receive 2.1% of their average salary over the last four years of employment for every year worked. Liz is planning on retiring at the end of this year after 20 years of employment. Her salaries for the last four years are \$66,000; \$66,000; \$73,000; and \$75,000. Calculate Liz's annual pension.
10. As part of their employee benefits, all workers at Light and Power Electric Company receive a pension that is calculated by multiplying the number of years worked times 1.875% of the average of their three highest years' salaries. Mia has worked for LPEC for 30 years and is retiring. Her highest salaries were \$92,000, \$94,800, and \$96,250. Calculate Mia's pension.
11. In Ben's state, the weekly unemployment compensation is 55% of the 26-week average for the two highest-salaried quarters. A quarter is three consecutive months. For July, August, and September, Ben earned a total of \$22,400. In October, November, and December, he earned a total of \$22,800. Determine Ben's weekly unemployment compensation.
12. Carol's weekly unemployment compensation is W percent of the 26-week average for the two highest salaried quarters. For January, February, and March, Carol earned X dollars. In April, May, and June, she earned Y dollars. Write an algebraic expression that represents Carol's weekly unemployment compensation.

6-5 Social Security and Medicare

Exercises

1. Dr. Grumman got his first job in 1990. In that year, the government took out 7.45% of each income for Social Security and Medicare, until a person made \$51,300. If Dr. Grumman earned \$31,340 in 1990, how much did he pay to Social Security and Medicare?
2. Lauren earned a total of d dollars last year. The government took out 6.2% for Social Security and 1.45% for Medicare. Write an algebraic expression that represents what she paid to Social Security and Medicare combined.
3. In 1978, the Social Security and Medicare rate combined was 6.05%, up to \$17,700 earned.
 - a. Express the Social Security tax $s(x)$ for 1978 as a piecewise function.
 - b. Ten years later, the percent had increased to 7.51% and the maximum taxable income had increased to \$45,000. Express the Social Security tax $s(x)$ for 1988 as a piecewise function.
 - c. If a person earned \$50,000 in 1978, and \$50,000 in 1988, what was the difference in the Social Security and Medicare taxes paid?
4. In 2010, the government took out 6.2% of earnings for Social Security to a maximum taxable income of \$106,800. For Medicare, 1.45% of earnings was paid. How much money would someone have to have earned in 2010 so that their payments into Medicare were equal to their payments into Social Security? Round to the nearest dollar.
5. In 1998, Lisa earned \$149,461.20. The Social Security maximum taxable income was \$68,400, and the Social Security percent was 6.2%.
 - a. What was her monthly gross pay?
 - b. In what month did Lisa hit the maximum taxable Social Security income?
 - c. How much Social Security tax did Lisa pay in May, to the nearest cent?
 - d. How much Social Security tax did Lisa pay in July, to the nearest cent?
 - e. How much Social Security tax did Lisa pay in June, to the nearest cent?

Name _____

Date _____

The following table gives a historical look at Social Security and Medicare taxes from 2000 – 2010. Use the table for Exercises 6 – 10.

| Year | Social Security Percent | Social Security Maximum Taxable Income | Medicare Percent | Income Subject to Medicare Tax |
|------|-------------------------|--|------------------|--------------------------------|
| 2000 | 6.2% | 76,200 | 1.45% | All income |
| 2001 | 6.2% | 80,400 | 1.45% | All income |
| 2002 | 6.2% | 84,900 | 1.45% | All income |
| 2003 | 6.2% | 87,900 | 1.45% | All income |
| 2004 | 6.2% | 87,900 | 1.45% | All income |
| 2005 | 6.2% | 90,000 | 1.45% | All income |
| 2006 | 6.2% | 94,200 | 1.45% | All income |
| 2007 | 6.2% | 97,500 | 1.45% | All income |
| 2008 | 6.2% | 102,000 | 1.45% | All income |
| 2009 | 6.2% | 106,800 | 1.45% | All income |
| 2010 | 6.2% | 106,800 | 1.45% | All income |

6. In 2010, for the first time since 2004 the maximum taxable income was not raised. Find the maximum a person could pay into Social Security for 2010.
7. Let $t(x)$ represent the total combined Social Security and Medicare taxes for the year 2007. If x represents the income, express this total as a piecewise function.
8. Mr. Jackson had two jobs in 2005. The first job, in which he earned \$74,007, was from January to August, and the second job, in which he earned \$35,311, was from August to the end of the year. At the first job, he earned \$74,007. As a result, he paid too much Social Security tax. How much should he be refunded?
9. In 2009, Dr. Kirmser's gross pay was \$381,318.60.
- What was her monthly gross pay?
 - In what month did she hit the maximum taxable Social Security income?
 - How much Social Security tax did she pay in February? Round to the nearest cent.
 - How much Social Security tax did she pay in September? Round to the nearest cent.
 - How much Social Security tax did Dr. Kirmser pay in April? Round to the nearest dollar.