

### Chapter 6 Review

1. Josephine is looking for a new part-time job as a plumber. She responds to a classified ad for a position that pays 44.5K. What would her weekly salary be to the nearest cent if she gets this job?

$$44500 \div 52 = \boxed{\$855.77}$$

2. Frank got a new job through the Valley Employment Service. The job pays \$51K per year, and the agency fee is equal to 35% of one month's pay. How much must Frank pay the agency?

$$51000 \div 12 = \$4250 \text{ monthly}$$

$$4250 \times .35 = \boxed{\$1,487.50}$$

3. Tania earns \$13.50 per hour at the Glendale Florist. She regularly works 40 hours per week. She is paid time-and-a-half for each hour of overtime work. Last week she worked 43 hours. What was her gross pay for the week?

$$40(13.50) + 3(1.5 \times 13.50) = \boxed{\$600.75}$$

4. Carole worked her 40 regular hours last week plus 5 overtime hours at the time-and-a-half rate. Her gross pay was \$451.25. What was her hourly rate?

$$40x + 5(1.5x) = 451.25$$

$$40x + 7.5x = 451.25$$

$$\begin{array}{r} 47.5x = 451.25 \\ \hline 47.5 \end{array}$$

$$\boxed{x = \$9.50 \text{ per hr}}$$

5. Jim received a total piecework paycheck of \$291.81. He receives 71 cents per unit produced. How many units did he produce?

$$\begin{array}{r} .71x = 291.81 \\ \hline .71 \quad .71 \end{array}$$

$$x = 411 \text{ units}$$

6. The Price King Auto Mall pays their sales staff by commission. They are paid a percent of the profit the dealership makes on each sold car. If the profit is \$900 or less, the commission rate is 18%. If the profit is greater than \$900 and less than or equal to \$1,500, the commission rate is 20% of the profit. If the profit is above \$1,500, the rate is 25% of the profit. If  $x$  represents the profit, express the commission  $c(x)$  as a piecewise function.

$$c(x) = \begin{cases} .18x & \text{when } x \leq 900 \\ .20x & \text{when } 900 < x \leq 1500 \\ .25x & \text{when } x > 1500 \end{cases}$$

7. Anton works at First National Bank. His employer offers him a pension retirement plan which will be 1.45% of his average salary for the last five years of employment for every year worked. Anton is planning on retiring at the end of this year after 22 years of employment. His salaries for the last five years are \$92,000; \$92,800; \$99,000; \$100,500; and \$105,000. Calculate Anton's pension.

$$\text{Avg. Salary} = 97,860$$

$$97,860 \times .0145 = 1418.97$$

$$1418.97 \times 22 = \$31,217.34 \text{ pension}$$

8. Gabe contributes 15% of the total cost of his individual health care coverage. He pays \$28.80 per week towards this contribution. What is the total value of Gabe's health care coverage for the year?

$$\frac{28.80}{.15} = \frac{.15x}{.15}$$

$$x = \$192 \text{ total health per week}$$

$$192 \times 52 = \boxed{\$9984 \text{ per year}}$$

9. In Don's state, the unemployment compensation is calculated by finding the total of the quarterly wages of two consecutive quarters and dividing that amount by 26. The weekly unemployment amount is 47% of that figure. In the quarter consisting of January, February, and March, Don made a total of \$19,574. In the quarter consisting of April, May, and June, he made a total of \$21,974. Find Don's weekly unemployment amount.

$$19574 + 21,974 = 41548 \text{ in } \frac{1}{2} \text{ year}$$

$$41548 \div 26 = 1598 \text{ weekly}$$

$$1598 \times .47 = \boxed{\$751.06}$$

10. In 2008, the Social Security percentage was 6.2% for the first \$102,000 earned. The Medicare percentage was 1.45% of your entire salary. Darby made \$143,000 in 2008.
- a. Write the combined taxes,  $y$ , as a piecewise function where  $x$  represents the income.

$$102,000 \times .062 = 6324$$

$$y = \begin{cases} .062x + .0145x & \text{when } x \leq 102,000 \\ 6324 + .0145x & \text{when } x > 102,000 \end{cases}$$

- b. How much did Darby pay in Social Security tax?

$$102000 \times .062 = \boxed{\$6324}$$

- c. How much did Darby pay in Medicare tax?

$$143,000 \times .0145 = \boxed{\$2073.50}$$