

1. Kilometer Converter

Write a program that asks the user to enter a distance in kilometers, and then converts that distance to miles. The conversion formula is as follows:
 $\text{Miles} = \text{Kilometers} * 0.6214$

3. How Much Insurance?

Many financial experts advise that property owners should insure their homes or buildings for at least 80 percent of the amount it would cost to replace the structure. Write a program that asks the user to enter the replacement cost of a building and then displays the minimum amount of insurance he or she should buy for the property.

4. Automobile Costs

Write a program that asks the user to enter the monthly costs for the following expenses incurred from operating his or her automobile: loan payment, insurance, gas, oil, tires, and maintenance. The program should then display the total monthly cost of these expenses, and the total annual cost of these expenses.

5. Property Tax

A county collects property taxes on the assessment value of property, which is 60 percent of the property's actual value. For example, if an acre of land is valued at \$10,000, its assessment value is \$6,000. The property tax is then 64¢ for each \$100 of the assessment value. The tax for the acre assessed at \$6,000 will be \$38.40. Write a program that asks for the actual value of a piece of property and displays the assessment value and property tax.

6. Body Mass Index

Write a program that calculates and displays a person's body mass index (BMI). The BMI is often used to determine whether a person is overweight or underweight for his or her height. A person's BMI is calculated with the following formula:

$$\text{BMI} = \text{weight} * 703 / \text{height}^2$$

where *weight* is measured in pounds and *height* is measured in inches.

7. Calories from Fat and Carbohydrates

A nutritionist who works for a fitness club helps members by evaluating their diets. As part of her evaluation, she asks members for the number of fat grams and carbohydrate grams that they consumed in a day. Then, she calculates the number of calories that result from the fat, using the following formula:

$$\text{calories from fat} = \text{fat grams} * 9$$

Next, she calculates the number of calories that result from the carbohydrates, using the following formula:

$$\text{calories from carbs} = \text{carb grams} * 4$$

The nutritionist asks you to write a program that will make these calculations.

8. Stadium Seating

There are three seating categories at a stadium. For a softball game, Class A seats cost \$15, Class B seats cost \$12, and Class C seats cost \$9. Write a program that asks how many tickets for each class of seats were sold, and then displays the amount of income generated from ticket sales.

9. Paint Job Estimator

A painting company has determined that for every 115 square feet of wall space, one gallon of paint and eight hours of labor will be required. The company charges \$20.00 per hour for labor. Write a program that asks the user to enter the square feet of wall space to be painted and the price of the paint per gallon. The program should display the following data:

- The number of gallons of paint required
- The hours of labor required
- The cost of the paint
- The labor charges
- The total cost of the paint job

10. Monthly Sales Tax

A retail company must file a monthly sales tax report listing the total sales for the month, and the amount of state and county sales tax collected. The state sales tax rate is 4 percent and the county sales tax rate is 2 percent. Write a program that asks the user to enter the total sales for the month. From this figure, the application should calculate and display the following:

- The amount of county sales tax
- The amount of state sales tax
- The total sales tax (county plus state)