1. The tax calculator program of the case study outputs a floating-point number that might show more than two digits of precision. Use the round function to modify the program to display at most two digits of precision in the output number.

2. You can calculate the surface area of a cube if you know the length of an edge. Write a program that takes the length of an edge (an integer) as input and prints the cube's surface area as output.

3. Five Star Retro Video rents VHS tapes and DVDs to the same connoisseurs who like to buy LP record albums. The store rents new videos for $3.00 a night, and oldies for $2.00 a night. Write a program that the clerks at Five Star Retro Video can use to calculate the total charge for a customer's video rentals. The program should prompt the user for the number of each type of video and output the total cost.

4. Write a program that takes the radius of a sphere (a floating-point number) as input and then outputs the sphere's diameter, circumference, surface area, and volume.

5. An object's momentum is its mass multiplied by its velocity. Write a program that accepts an object's mass (in kilograms) and velocity (in meters per second) as inputs and then outputs its momentum.

6. The kinetic energy of a moving object is given by the formula KE 1 2/ mv 5 2 ( ) where m is the object's mass and v is its velocity. Modify the program you created in Project 5 so that it prints the object's kinetic energy as well as its momentum.

$1/2 \, mv^2$

7. Write a program that calculates and prints the number of minutes in a year.

8. Light travels at 3 *108 meters per second. A light-year is the distance a light beam travel in

one year. Write a program that calculates and displays the value of a light-year.

9. Write a program that takes as input a number of kilometers and prints the corresponding number of nautical miles. Use the following approximations:

- A kilometer represents 1/10,000 of the distance between the North Pole and the equator.

- There are 90 degrees, containing 60 minutes of arc each, between the North Pole and the equator.

- A nautical mile is 1 minute of an arc.

10. An employee's total weekly pay equals the hourly wage multiplied by the total number of regular hours plus any overtime pay. Overtime pay equals the total overtime hours multiplied by 1.5 times the hourly wage. Write a program that takes as inputs the hourly wage, total regular flours, and total overtime flours and displays an employee's total weekly pay.

hours