Question 01:

A painting company has determined that for every 112 square feet of wall space, one gallon of paint will be required. The program should display the following data:

- The number of gallons of paint required
- The total cost of the paint

Your program should have two functions to get the user inputs (the number of square feet) and the cost per gallon of the paint, making sure that they enter a number and not a string. Your program should have a third function that takes as a parameter the number of feet and returns the amount of paint required. You should also have a fourth function that takes as a parameter the cost per gallon of paint and the amount of paint required and then returns the total cost of paint. The program should then display the results.

Lastly your program should ask the user if they would like to enter another set of numbers or quit.

Your program should make use of all the techniques we have learned so far. Including functions and validation of inputs.

Question 02:

Write a program that asks the user to enter a distance in kilometres, and then converts that distance to miles. Your program should have a function to get the user input, making sure that they enter a number and not a string. Your program should have a second function that takes as a parameter the number to be converted and returns the conversion. Lastly your program should ask the user if they would like to enter another number or quit.

The conversion formula is as follows:

Miles = Kilometres x 0.6214

Your program should make use of all the techniques we have learned so far. Including functions and validation of inputs.

Question 03:

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.

Your program should have a function to get the user input, making sure that they enter a number and not a string. This function should be reused for each expense item. Your program should

have a second function that takes as a parameter the expenses and returns the monthly cost. Lastly your program should ask the user if they would like to enter another number or quit.

Your program should make use of all the techniques we have learned so far. Including functions and validation of inputs.

Question 04:

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 72¢ for each $100 of the assessment value. The tax for the acre assessed at $6,000 will be $43.20. Write a program that asks for the actual value of a piece of property and displays the assessment value and property tax.

Your program should have a function to get the user input, making sure that they enter a number and not a string. Your program should have a second function that takes as a parameter the property value and returns the assessment value. You should also have a function that takes as a parameter the assessment value and returns the property tax amount.

Lastly your program should ask the user if they would like to enter another number or quit.

Your program should make use of all the techniques we have learned so far. Including functions and validation of inputs.

Design (Pseudo Code)

```
define get_float_input(message, error_message=”Invalid input”)
        while True
                Try:
                        property_value = input float value display message
                Exception:
                        display error_message
                        continue to next iteration
                Else:
                        break
        return  property_value

define get_assessment_value(property_value )
        return property_value * .6

define get_property_tax(assessment_value)
        return assessment_value * 0.72/100

while True
        property_value = get_float_input(“Enter the property value”)
        assessment_value = get_assessment_value(property_value)
        property_tax = get_property_tax(assessment_value )
        print property_tax
        input do you wish to repeat(y/n)
        convert repeat to lowercase
        if repeat == ‘y’
                continue to next iteration
        else:
                break
```