

# Visual Basic Tips

## To clear a text box:

```
TextBoxName.Clear()  
TextBoxName.Text = String.Empty  
TextBoxName.Text = ""
```

E.g. txtArea.clear()  
txtArea.text = string.empty  
txtArea.text = ""

## To clear a label:

```
LabelName.text = String.Empty  
LabelName.text = ""
```

```
lblFinalCost.text =String.Empty  
lblFinalCost.text = ""
```

A named constant is like a variable whose content is read-only, and cannot be changed by a programming statement while the program is running.

```
Const ConstantName as DateType = value  
Eg. Const dblPI asDouble = 3.14159  
Const dblINTEREST_RATE as Double = 0.132
```

Rules for Naming:

- The word Const is used instead of Dim
- An initialization value is required.
- By convention, all letters after the prefix are capitals
- Words in the name are separated by the underscore character.

The keyword Const indicates that you are declaring a named constant instead of a variable.

Math functions such as Square Root can be called through the Math functions.  
Math.sqrt(number) – this will take the sqrt of the number in the brackets.

## **PROGRAMMING PROBLEMS**

### 1. **The Material Problem**

Create a program to calculate the cost of buying material for a dress. Use a textbox to enter the number of meters of material and another textbox to enter the cost per meters. You will also need labels so the user understands what to enter in the textboxes. Use another label to display the final cost. Include Calculate, Clear, and Exit commands.

### 2. **The Pet Problem**

Create a program to calculate and display the cost of buying a pet. Use textboxes to enter values for the following:

- a) Purchase price of pet
- b) Veterinary fee for checking pet
- c) Accessories

Calculate and display the sum in a label as the total cost.

### 3. **The Test Average Problem**

Create a program to calculate and display the average of three test scores. Use textboxes to enter values for the three test scores. Calculate the sum of the scores and divide by three to calculate the average. Display the average in a Label.

### 4. **Area of a Circle**

Create a program to enable the user to enter the radius of a circle and then have the computer calculate and display the area.  $A = \pi r^2$

### 5. **Length of Hypoteneuse**

Create a program to enable the user to enter two numbers to represent the sides of a right-angled triangle. The computer will calculate and display the length of the hypoteneuse.  $c^2 = a^2 + b^2$

### 6. **Square and Square Root**

Create a program to enable the user to enter one number. The computer will calculate and display both the square and the square root of that number.

### 7. **Area of a Trapezoid**

The formula for the area of a trapezoid is  $A = \frac{1}{2}(\text{sum of the parallel sides}) \times \text{height}$ . Create a program to let you enter the height, and both parallel sides. Then calculate and display the Area.

### 8. **Cost of Carpeting**

Create a program that does all of the following: (a) allows you to enter the length and width of a room in feet and will calculate the area of the floor in square yards. 3 ft = 1 yd. (b) allows you to enter the cost of carpeting in square yards. The computer will then give you the total cost of the carpeting, tax included.

9. **Calculate Number of Miles**

Create a program to allow you to enter any number of kilometres and have the computer calculate and display the equivalent number of miles.

$$1 \text{ km} = .6213 \text{ miles}$$

10. **The Drag Race Problem**

The distance a racecar undergoing a constant acceleration travels over a given period of time is given by the formula:

$$s = 1/2at^2$$

where  $s$  is the distance traveled,  $a$  is the acceleration, and  $t$  is the elapsed time. Create a program that prompts the user to enter the elapsed time in seconds. Assuming the distance traveled is one-quarter mile (1320 feet), calculate and display the acceleration in feet per second squared. Start by solving the equation for  $a$ .

11. **Concrete**

Create a program to calculate the cost of concrete for a sidewalk. Use textboxes to enter the length and width of the sidewalk in feet. Assume the concrete is poured 4 inches thick. Calculate the volume of the sidewalk by multiplying the length times the width times the depth. Make sure the units agree. Display the volume in both cubic feet and cubic yards. Assume the cost of concrete is 60 dollars per cubic yard. Display the cost of the concrete.