Section C. Variables

Variables are a way of storing information. The variables x and y are often used in algebra, assigning a value to each e.g. x = 2 and y = 4. We can also use variables in JavaScript, but you must declare them first using the term 'var'. Declaring a variable is a way of saying "a variable exists and this is its name" e.g.

```
var valueX = 2
var valueY = 4
var valueZ
```

valueX is the name of a variable. It has been given the value 2.
valueY is the name of a variable. It has been given the value 4.
valueZ is the name of a variable. It has not yet been given a value.

You can then use these variables in calculations.

Task 1
Using the fact that valueX = 2 and valueY = 4, write down the value of the variable 'valueZ' in each case below:

a. valueZ = valueX + 3
b. valueZ = valueX * 2 (* is the symbol used for multiply)
c. valueZ = valueX / 2 (* is the symbol used for divide)
d. valueZ = valueX + valueY
e. valueZ = (valueX – valueY) * 7

Some rules concerning variables

1. Variables should be declared before use, using the term 'var'
2. Variables must start with a letter or an underscore (e.g. FirstName rather than 1stName)
3. Variables can only contain letters, numbers and the underscore (e.g. Address_1).
4. Variables are case sensitive (valueZ is not the same as valuez)
5. Life will be easier if you choose names that mean something (e.g. 'PeopleCount' rather than 'x7')

Task 2
Add the following code to a new page and look at it in 'Preview' (remember that the JavaScript is placed between the </title> and </head> tags.

```
<script LANGUAGE="JavaScript">
<!--
var valueX = 2;
var valueY = 4;
var valueZ = valueX + valueY;
alert(valueZ);
//-->
</script>
```

A semi-colon (;) is used at the end of each statement

Task 3
Adjust the script so that it calculates and displays each of the following sums (there are many ways of achieving the correct results). Write down the answers.

a. 2345 + 432 _____

b. 25 * 378 _____

c. 3578 / 72 _____

d. (34 * 23) + 97 _____

Section C - Task 1 (variables)

a. valueZ = 5
b. valueZ = 4
c. valueZ = 1
d. valueZ = 6
e. valueZ = -14

Section C - Task 2 (calculations)

a.
```
var valueX = 2345;
var valueY = 432;
var valueZ = valueX + valueY;
alert(valueZ);                              valueZ = 2777
```

b.
```
var valueX = 25;
var valueY = 378;
var valueZ = valueX * valueY;
alert(valueZ);                              valueZ = 9450
```

c.
```
var valueX = 3578;
var valueY = 72;
var valueZ = valueX / valueY;
alert(valueZ);                              valueZ = 49.694444
```

d.
```
var valueX = 34;
var valueY = 23;
var valueZ = 97
var answer = (valueX * valueY) + valueZ;
alert(answer);                              valueZ = 879
```

NB. There are much easier ways of performing all these calculations