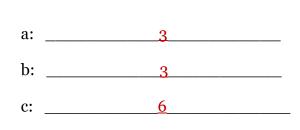
1) Fill in the blanks of the text below. There are 9 blanks and each blank is worth one mark. This guestion is scored out of 8; a maximum of 9 will be awarded. Computers store and use data with the binary numeric system. Numbers represented using the system have a base of two. For example, the number 1011 has a value of 11 in decimal. execute a program. The CPU can only work with one of these at a time. To make it appear that programs are running simultaneously, the scheduler allocates tiny amounts of CPU time to each and switches between them. Assembly language was introduced as a "shorthand" language which works at a level above <u>machine language</u>. An "interpreter" program called the <u>assembler</u> translates Assembly instructions into several of these commands. High-level languages such as C, C++ or Java, go one step beyond Assembly. Each line of these languages is translated into several lines of Assembly code. ENIAC was the first electronic computer built in the late 1940s. It contained 17,468 vacuum tubes which were physically large, generated lots of heat and required lots of energy. These have been replaced in modern computers by transistors, millions of which are contained on a single <u>integrated circuit/chip</u>.

2) Examine the following small Python programs. Determine the values of the variables or the output to the screen at the end of each program's execution. Use quotation marks around string values and decimals for floats. There are 9 variables or outputs and each is worth one mark. This question is scored out of 8; a maximum of 9 will be awarded.

$$x = 0b10$$

 $y = x**(x * 2)**0.5$





$$msg = "{0} is {0:.1f}"$$

 $msg = msg.format(2.347)$

output:

2.347 is 2.3

```
val = 6
value = 2

def doExp(exp):
    value = val**exp
    return value

def main():
    global value
    val = doExp(value)
main()
```

val: _______6
value: ______2

3. a) There are 24 hours in a day and 60 minutes in an hour.

Write a function printTotalMinutes(...) that has two parameters: one for the number of days and one for the number of hours. This function must calculate the total minutes from these values and print it to the screen as follows:

```
The total number of minutes is 1560
```

This question is scored out of 4.

```
def printTotalMinutes(days, hours):
    minutes = (days * 24) + hours
    minutes = minutes * 60
    print("The total number of minutes is", minutes)
```

b) Write a main() function that asks the user for a number of hours and a number of minutes. Use these values to call the function printTotalMinutes(...). Here is the sample output:

```
What is the number of days? 1
What is the number of hours? 2
The total number of minutes is 1560
```

This question is scored out of 4.

```
def main():
    days = int(input("What is the number of days? "))
    hours = int(input("What is the number of hours? "))
    print()
    printTotalMinutes(days, hours)
```