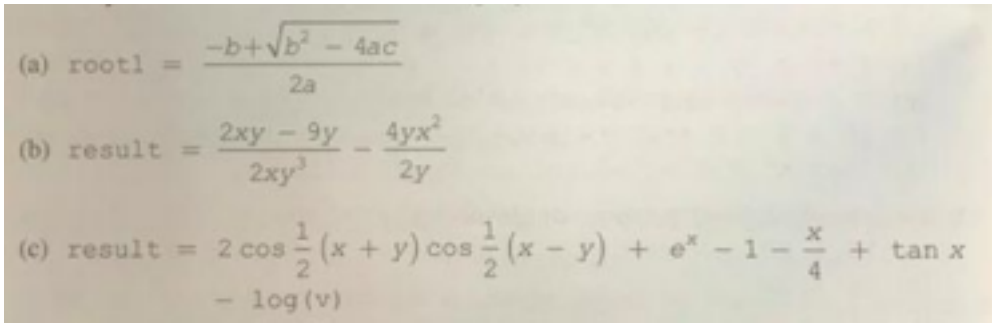
Python Practical 2 Sep 2021

1) Write Python statements for the following equations:



2) The Arrhenius relationship states:

$$n = n_v e^{-Q_v/(RT)}$$

In a system where

$$n_v = 2.0 \times 10^{-3}, Q_v = 5, R = 3.18, \text{and } T = 293$$

calculate n. (Import math module using - `import math`)

3) For each of the problems below, run the line of code. Then explain the error in your own words. Give an explanation more specific than invalid syntax. Then suggest and run a line of code that fixes the error. (Import math module using - `import math`)

a) >>> 9 x 10
b) >>> 1 1/2 + 2 2/3
c) >>> 3cos(35)
d) >>> 8.31 x 10^9
e) >>> 7% + 8% + 9%
f) >>> (-)54.2 + 9.2
g) >>> '5' / '4'
h) >>> ln(e) - log(10)

4) What will be the output of the following and why?

```
>>> A, B = True + 0, False + 0
>>> print(A, B)
```

5)

```
def check(x):
  if x + 1 is 1 + x:
    return False
  if x + 2 is not 2 + x:
    return False
  return True
```

What could you input as x to make this function return True?

6) WAP to print the following star patterns:

i)

```
*
* *
* * *
* * * *
* * * * *
* * * *
* * *
* *
*
```

ii)

```
A
B C
D E F
G H I J
K L M N O
```

7) Write a function using recursion to check if a number n is prime (you have to check whether n is divisible by any number below n).