PYTHON MATHEMATICAL OPERATORS


```
num1 = int(input("Enter a number: "))
num2 = int(input("Enter another number: "))
answer = num1+num2
print("The total is", answer)
```

This program will ask the user to input two whole numbers and it will add them together and display the answer.

```
num=float(input("Enter a number: "))
```

Ask the user to input a number that can contain decimal places.

```
answer = num1 - num2
```

This will subtract num2 from num1 and store them in a new variable called answer.

```
answer = num1 * num2
```

This will multiply the two numbers together and store them in a new variable called answer.

```
answer = num1 / num2
```

This will divide num1 but num2 and store them in a new variable called answer.

```
answer = num1 ** 3
```

** means "to the poser of" so num1 ** 3 is the same as $num1^3$

```
answer = num1 // 5
```

This will perform a whole number division e.g. 16//5 is 3

```
answer = num1 % 5
```

This will find the remainder after a whole number division e.g. 16%5 is1

```
roundednum = round(num1,3)
```

Will round a number to three decimal places and store this as a new variable called roundednum.

```
import math
num = int(input("Enter number: "))
sqroot = math.sqrt(num)
print(sqroot)
```

This will ask the user to input a number and will display the square root of that number. Please note the "**import math**" line at the beginning, this needs to be at the start of your program otherwise the sqrt function will not work.

```
import math
radius = int(input("Enter the radius: "))
area = math.pi*(radus**2)
print(area)
```

This uses pi (π) to work out the area of a circle when the user inputs the radius.

Correcting code

This program should ask the user to input two numbers. It should add them together and display the square root of the total. Why is it not working?

```
num1 = float(input("Enter number: "))
num2 = float(input("Enter another number: "))
total = num1+num2
sqroot = math.sqrt(total)
print(sqroot)
```

Create your own code

Make sure you save each program with a sensible name. To save time you can reuse and adapt your old programs to help you create new programs.

1. Ask the user to input three numbers. Add the first two together and then divide this by the third and show this to 1 decimal place.
2. Ask the use for the diameter of a circle and display the area.
3. Ask the user how much the bill costs and how many diners there are. Work out a 12% tip and then how much each diner should pay including their share of the tip.
4. Ask the user to input a number and then ask them to work out the square root of the number. If their answer is correct display a suitable response, if they get the answer incorrect tell them the correct answer.
5. Ask the user to enter the number of sweets they have and how many people this needs to be shared with. Give an answer that says "Each person will get … sweets each and there will be … left over"
6. Find the square root of 6889.