Task 2

```
>>>import math
>>>radius = 5
>>>height = 5
>>>volume = math.pi * height * radius ** 2
>>>print(f'The volume of a cylinder is {volume}[cm^3] for a given')
>>>print(f'diameter of {2*radius}[cm] and height of {height}[cm].')
```

1. What changes do you need to make to the code to get the following output?

```
   The volume of a cylinder is 392 [cm^3] for a given
   diameter of 10 [cm] and height of 5 [cm].
```

Ans: add math.floor(volume)

2. What changes do you need to make to the code to get the following output?

```
   The volume of a cylinder is 393 [cm^3] for a given
   diameter of 10 [cm] and height of 5 [cm].
```

Ans:add round(volume)

Task 3

Part A:

Problem number	Hand calculation	Python calculation
1.A=5	A=5	5
2.B=A^3	6	125
3. C= B– A* 7 /5	118	-1.0
4. D = 7 ^ (7 / 3)	D=93.7336	Type error
5. E = 3 ^ (2 * 5)	E=59049	9
6. F = 179 % 17	9	9
7. G = 17 // 4 + 11 / 6	8.083	5.83333333333333

Part B:

1. What differences did you notice between the hand calculations and the Python calculations?
    1. For number 4 the exponent symbol doesn't work in python. For number 7 the double slash also means different things in python.
2. What Python function can you use to output these variables to the screen?
    1. Print function
3. What syntax differences exist between Python and your calculator? Be specific.
    1. The symbols are different from my calculator. For example, the carrot sign works perfectly on my calculator as the power sign while it does not work in python. Also the percentage symbol works differently as well.

Task4

```
1. >>>a=7
2. >>>B-3=1.33333333
3. >>>ProducT= 12.59
4. >>>
5. >>>return = a + B_2 - ProducT

6. >>>
7. >>>names@133 = Product * A

8. >>>
9. >>>lg = a^2
10. >>>
11.>>>Sum = Name - Lg-a*2
12. >>>
13.>>>def = a^ProducT
14. >>>
15.>>>3var = B_7 - 7
```

Corrected Version

```
1. a=7
2. B_2=1.333333
3. ProducT=12.59
4.
5. A=a+B_2-ProducT
6.
7. Name = ProducT * A
8.
9. lg = a**2
10.
11. B_7 = Name-lg-a*2
12.
13. d = a**ProducT
14.
15. var3 = B_7-7
```

Analysis

1. No change
2. Change B-3 to B_2 because dashes are not allowed to be a variable name. Also, because there are no B_3 in the following code, while there is a B_2 so I assumed the 3 is a typo.
3. No change
4. No change
5. Changed return to A because a keyword cannot be a variable name and I see a A in the following code.
6. No change
7. I deleted the @133 and changed it to Name because the @ symbol cannot be in a variable name. Also, there is a Name in the following code, so I changed names@133 to Name.
8. No change
9. The caret does not work in python, so I changed it to **, which indicates exponents.
10. No change
11. Because Sum equals sum in python and sum is a keyword, we cannot use it as a variable name. So, I changed it to B_7 because I see a B_7 in line 15. I also change Lg to lg because Spyder is case sensitive.
12. No change
13. Because def is a keyword, we cannot use it as a variable name. I change def to d and changed the caret to **, because the caret does not work in python.
14. No change
15. A variable name cannot start with a number, so I moved the 3 to the end of the name.