

Fill out the table. For each expression, first compute the expression in your head, without Python. Write the result in the second column, or “?” if you have no idea. Next use Python to compute the expression. If the answers are different, try to explain why in the last column.

Expression	Expected Value	Calculated Value	Reason for Calculated Value
<code>math.sqrt (9)</code>	3	3.0	Python also includes the float value
<code>math.sqrt (-9)</code>	Math error	ValueError : math domain error	
<code>math.floor (3.7)</code>	3	3	
<code>math.ceil (3.7)</code>	4	4	
<code>math.ceil (-3.7)</code>	-3	-3	
<code>math.copysign (2, -3.7)</code>	-2	-2.0	Python also includes the float value
<code>math.trunc (3.7)</code>	3	3	
<code>math.trunc (-3.7)</code>	-3	-3	
<code>math.pi</code>	3.14	3.141592653589793	Python is accurate to upto 15 values of pi
<code>math.cos (math.pi)</code>	-1.0	-1.0	

In addition to the above expressions, type the following code into the Python interactive mode:

```
math.pi = 3
```

```
math.pi
```

What happens and why?

Answer

Python prints the value 3.

Python assigns the value 3 to the `math.pi` function. So when it is called upon, it prints out the assigned value of 3.