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** |
| math.sqrt(9) | 3 | | 3.0 | Python also includes the float value |
| math.sqrt(-9) | Math error | | ValueError: math domain error |  |
| math.floor(3.7) | 3 | | 3 |  |
| math.ceil(3.7) | 4 | | 4 |  |
| math.ceil(-3.7) | -3 | | -3 |  |
| math.copysign(2, -3.7) | -2 | | -2.0 | Python also includes the float value |
| math.trunc(3.7) | 3 | | 3 |  |
| math.trunc(-3.7) | -3 | | -3 |  |
| math.pi | 3.14 | | 3.141592653589793 | Python is accurate to upto 15 values of pi |
| math.cos(math.pi) | -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.