Name:_____   CM: _____   Section: _____   Grade: _____ of 10

Here (below) is a partial definition and test code for a simple **Point** class (as you saw/worked in a previous session).

```
                                        class Point(object):
  # Tests the Point class                   def __init__(self, x, y):
                                                self.x = x
  p1 = Point(40, 50)                          self.y = y
  p2 = Point(60, 70)                          self.total_moves = _____
  print(p1, p2)
                                            def move_by(self, dx, dy):
                                                # Location 1
  p2.move_by(1, 2)                            self.x = self.x + dx
  print(p1, p2)                               self.y = self.y + dy
                                                self.total_moves = self.total_moves + 1

  a = p1.get_number_of_moves()
                                            def __repr__(self):
  b = p2.get_number_of_moves()                return "Point({}, {})".format(_____,
  print(a, b)


                                                                             _____)


                                            def get_number_of_moves(self):
                                                # Location 2
                                                return total_moves
```

1.  We want the **__repr__** method to print the current *x* and *y* coordinates of its Point, formatted nicely. Fill in the blanks above in **__repr__** to make it do that.

2.  In the space to the right,
    draw a box-and-point diagram
    that shows the values of **p1, p2,**
    and **self** when the code
    gets to **Location 1**.

3.  Fill in the blank in **__init__** to set
    **self.total_moves** to its correct value.

4.  There is a small but important bug inside
    the **get_number_of_moves** method. What is it?

5.  When the test code runs and gets to **Location 2** the FIRST time, what is the value of **self**?

    What is the value of **self** when we get to Location 2 the SECOND time?

6.  Assume that all the code works as intended (that is,
    assume that the bug in **get_number_of_moves** is fixed).
    In the space to the right, show the output of the test code.

7.  Are you very, very confident that you know **what lines of code execute, in what order**, when the test code runs? That you **understand what  self  is and why its use  ** attaches data **  to Point objects?**

    **Yes    No**   (if *No*, then talk with an assistant or your instructor about this quiz).