Python Homework 12

In the following multiple choice questions, please circle the correct output of Python code.

1.
```
for num in range(20,0,-2):
    if (num % 4 == 2):
        print(num)
```
(a) 4 16 (b) 16 10 4 (c) 18 12 6 2 (d) 1 4 7 10 13 16 19

(e) 18 14 10 6 2

2.
```
nums=[]
nums.append(1)
nums.append(2)
nums.append(3)
nums[2]=4
nums.insert(2,5)
nums.append(6))
print(nums)
```
(a) [1,2,3,4,5] (b) [1,2,4,5,6] (c) [1,2,5,4,6] (d) [1,5,2,4,6] (e) [1,5,4,3,6]

3.
```
nums=[1,3,5,7,9]
sum = 0
for i in range(0, len(nums),2):
    if (nums[i] % 3 == 0):
        sum = sum + nums[i]
print(sum)
```
(a) 6 (b) 12 (c) 8 (d) 9 (e) 10

4.
```
nums = [4,0,6,2,3,0,6]
for i in range(0, len(nums)-1, 1):
    if (nums[i] ==0):
        nums[i] = nums[i+1]
        nums[i+1]=0
print(nums)
```
(a) [4,6,2,3,0,6,0] (b) [4,6,2,3,6,0 0] (c) [0,0,4,6,2,3,6]

(d) [0,4,0,6,2,3,6] (e) [8,0,6,2,6,6,0]

5.
```
nums1 = [1,2,3,4,5]
nums2 = [5,4,3,2,1]
count = 0
for i in range(0, len(nums1)):
    if (nums1[i] > nums2[i]):
        count = count + 1
print(count)
```
(a) 1 (b) 2 (c) 3 (d) 4 (e) 5

Coding question 1: make a function move_zeros(nums) to move all 0s to right side of an array. Test function with move_zeros([0,2,0,4,2,0,4]), result should be [2,4,2,4,0,0,0].

Coding question 2: In mathematics, a **square number** or perfect **square** is an integer that is the **square** of an integer. Make a code to calculate sum of all square numbers that is smaller than 500. Answer should be 3795.

Coding question 3: make a function is_square_num(num) to check if num is a square number or not. If the number is a square number, return square root of that number. If the number is not a square number, return -1.