Name: _____

Grade: _____

Question 1. Is the following class valid?

```python
class Employee:
    empid=0
    name=""
    def __init__(id,name):
        empid=id
        name=name
```

YES

NO

## Question 2. A class may contain

methods

attributes

properties

constructor

instance attributes

module

package

## Question 3. What is 'self' in Python?

It is a keyword

It is a class attribute

It is a reference to an object which calls an instance method

It is a built-in function in Python

Question 4. All members of the class are _____ by default.

public

private

protected

internal

Question 5. Which of the following statement correct?

Class attributes are the variables defined directly in the class that is shared by all objects of the class

Class attributes are the variables defined inside the class method

Class attributes are objects of the class

None of the above

Question 6. The mechanism of designing a new class based on one or more existing classes is called:

overriding

inheritance

polymorphism

none of the above

Question 7. What is overriding?

Overriding can occur in the case of inheritance of classes

It is a process of redefining inherited method in child class

It is a magic method in Python

None of these

Question 8. What is the biggest reason for the use of polymorphism?

It allows the programmer to think at a more abstract level

There is less program code to write

The program will have a more elegant design and will be easier to maintain and update

Program code takes up less space

Question 9. Create a **Plane** class that inherits from the **Vehicle** class. Give the capacity argument of Plane.seat_number() a **default** value of 150.

Use the following code for your parent Vehicle class.

```
1  class Vehicle:
2      def __init__(self, name, max_speed, mileage):
3          self.name = name
4          self.max_speed = max_speed
5          self.mileage = mileage
6
7      def seat_number(self, number):
8          return f"The seat number of a {self.name} is {number} passengers"
```

Expected output: The seat number of a plane is 150 passengers

## Question 10. Decompose and define classes, methods and attributes in the following Python code:

```python
1  class QuadriLateral:
2      def __init__(self, a, b, c, d):
3          self.side1=a
4          self.side2=b
5          self.side3=c
6          self.side4=d
7
8      def perimeter(self):
9          p=self.side1 + self.side2 + self.side3 + self.side4
10         print("perimeter =",p)
11
12 class rectangle(QuadriLateral):
13     def __init__(self, a,b):
14         super().__init__(a, b, a, b)
15
16     def area(self):
17         a = self.side1 * self.side2
18         print("area of rectangle =", a)
19
20
21 class Square(rectangle):
22     def __init__(self, a):
23         super().__init__(a, a)
24
25     def area(self):
26         a=pow(self.side1, 2)
27         print('Area of Square: ', a)
28
29
30 r1=rectangle(10, 20)
31 r1.perimeter()
32 r1.area()
33 s=Square(10)
34 s.area()
35 s.perimeter()
```

Class: _____

Method: _____

Attributes: _____

Output: _____