1. A class "Student" has fields for name, grade_level, and gpa. Mr. Hays writes code to create a Student object bobby_hays. Which of these statements is true (there may be one or more correct answers)?

Student class is an instance of bobby_hays   ~~bobby_hays is an instance of Student class~~

~~an attribute of the bobby_hays object is gpa~~   an attribute of the Student instance is grade_level

2. Mr. Hays writes code to create a Student object emma. Which of these statements is true?

gpa is an instance of emma   emma is an instance of three attributes

~~grade_level is an attribute of the emma object~~   ~~Student class has three attributes~~

~~emma is an instance of Student class~~   Student is an instance of the emma object

3. Given the following Book class, which of the following lines of code would compile in another class?

```java
public class Book
{
    private String title;
    private String author;
    private int year;

    public Book()
    {
        title = "Unknown";
        author = "Unknown";
        year = 0;
    }

    public Book(String t)
    {
        title = t;
        author = "Unknown";
        year = 0;
    }

    public Book(String t,String a,int y)
    {
        title = t;
        author = a;
        year = y;
    }
}
```

~~Book a;~~

~~Book b = new Book();~~

Book c = new Book(2019);

~~Book d = new Book("Hammer Time");~~

Book e = new Book(1999,"A Deepness in the Sky","Vinge");

~~Book f = new Book("My Years At Analy","Hays",2025);~~

~~Book g = new Book("","Hays",2020);~~

4. Which of the following would NOT be a possible new constructor that we might add to the Book class?

public Book(int Year, boolean best_seller, String Title, String Author)

~~public Book(String Author)~~

~~public Book(String Author, String Title, int Year)~~

5. What is <u>constructor overloading</u> in one or more complete sentences?

When a class has more than one constructor with different signatures

6. What do all constructors share with the class that they reside in?

The name

7. What do we call the order and type of variables listed in a constructor header?

The signature

8. Circle the legal variable names shown in the following list:

2data   ~~data2~~   ~~data_2~~   data-2

my f   int   my%   ~~myDog~~

9. Given the class shown below to the left, write a constructor for this class that accepts an int value and sets the brightness variable to that value with the light turned on (that is, sets poweredOn to true). After you have written your constructor please discuss your answer with a classmate who has also finished. Discuss if either of you should make changes.

```
class LED_Light
{
    private int brightness;
    private Boolean poweredOn;

    public String toString()
    {
        return "Light level: "+brightness;
    }
}
```

public LED_Light (int b)
{
*   brightness = b;*
*   poweredOn = true;*
}