**Unit 5 Topic 5.1: Anatomy of a Class (20 points)**

1. Watch the 5.1: Daily Videos 5.1 - 5.3 (Skill 1.A).
2. Complete a 3-2-1 in a Word document:
   * 3 Things I knew
     1. What an overloaded constructor is
     2. What accessor methods are
     3. What mutator methods are
   * 2 Things I learned
     1. Make instance variables private to provide validation checks
     2. Making a variable private is an example of encapsulation
   * 1 Thing I still question
     1. When should you not make instance variables private?

**Unit 5 Topic 2: Constructors (20 points)**

1. Watch the 5.2: Daily Videos 5.1 - 5.3 (Skill 3.B).
2. Answer the following questions in complete sentences in your Word document:
   * What is a "has-a" relationship?
     1. One class contains an object of another class
   * How does the compiler know which constructor to use?
     1. When we pass the correct parameters into the object constructor, the compiler knows what route to take.
   * What was the most important "thing" in 5.2 Daily Video 3? Hint: Think about the FRQ
     1. An object’s state refers to its attributes which are initialized through the constructor of a class. The attributes are defined via the parameters passed to the constructor.

**Unit 5 Topic 4: Accessor Methods (10 points)**

1. Watch the video 5.4: Daily Video 2 (Skill 1.C).
2. Answer the question in your Word document:
   * Why do we need a toString() method? Give the example in the video.
     1. The toString method is used to provide a description of a specific object. Also, if the object is printed, the object’s toString method is called. This can be seen when printing volley in the video.

**Unit 5 Topic 5.5: Mutator Methods (15 points)**

1. Watch the video 5.5 Daily Video 1 (Skill 3.B) and Video 2(Skill 4.4).
2. Answer the questions in your Word document:
   * What are the 4 musts for all setters?
     1. Must be public
     2. Return type must be void
     3. Name is often setNameofVariable
     4. Parameter type must match the type of the instance variable to be modified.
   * What were the three mutator methods for the Cow class?
     1. setNumMilkings()
     2. setSound()
     3. setType()
   * What are some common errors found in the implementation of or calls to mutator methods?
     1. Sometimes they are implemented as a non-void method
     2. Sometimes they are implemented modifying the wrong instance variable/static variable

**Unit 5 Topic 7 Static variables and Methods (20 points)**

1. Watch the videos 5.7: Daily Video 1 (Skill 3.B) and Video 2 (Skill 5.A).
2. Answer the questions in your Word document:
   * When should you use a static method and when should you use a non-static method?
     1. Static methods should be used for returning values that are all static and can be shared across classes.
     2. Non-static methods should be used when non-static variables are used.
   * When should you use a static variable?
     1. Static variables should be used for data that can be shared across all classes.

**Unit 5 Topic 9 this Keyword (15 points)**

1. Watch the video 5.9: Daily Video 1.
2. Answer the questions in your Word document:
   * Why use the keyword this?
     1. The keyword this can clarify that you are using data from the class which is being called from. When a class contains another class which has a method with the same name, using the “this” keyword can be extremely useful.
   * Are there any times that the keyword this should not be used? Explain.
     1. The keyboard “this” should not be used when you are not trying to use a method or variable from the class which is calling that method or variable. Otherwise your code styling preference should determine that.