Brian Jones  
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CIS 113  
Chapter 1 Homework

2. d

11. Class, Component, Composite, Deployment, Object, Package, Profile, Activity, Use-Case, UML State Machine, Communication, Interaction Overview, Sequence, Timing.

20.  
a. My age in days: 9882 days  
b. How many days since Declaration of Independence: 86,425 days  
c. How many days between Nov. 21, 1783 and July 20, 1969: 67,811 days

28. c; The increment() function is implemented as a method in the class IncDate, and since inheritance is only from the superclass downwards, the Increment() method would be inaccessible to the Date superclass.

39. An alias is when two variables point to the same object. An example would be:  
Date dateA = new Date(1, 28, 1986)  
Date dateB = dateA;

This is dangerous because it is easy to get confused with this type of programming.

46.  
a. O(N2)  
b. O(3N2)  
c. O(N5)  
d. O(N2)  
e. O(N4)  
f. O(1)

48.  
a. O(N)  
b. O(N2)  
c. O(log2N)  
d. O(1)  
e. O(N2)

51.   
a. Algorithm 1: O(N3), Algorithm 2: O(N)  
b. Algorithm 2  
c. Below roughly x = 10.1, Algorithm 1 is the more efficient algorithm.