



Module 7 Mastery Check

7

Inheritance

1. Does a superclass have access to the members of a subclass? Does a subclass have access to the members of a superclass?
2. Create a subclass of **TwoDShape** called **Circle**. Include an **area()** method that computes the area of the circle and a constructor that uses **super** to initialize the **TwoDShape** portion.
3. How do you prevent a subclass from having access to a member of a superclass?
4. Describe the purpose and use of both versions of **super**.
5. Given the following hierarchy:

```
class Alpha { ...  
  
class Beta extends Alpha { ...  
  
class Gamma extends Beta { ...
```

In what order are the constructors for these classes called when a **Gamma** object is instantiated?
6. A superclass reference can refer to a subclass object. Explain why this is important as it relates to method overriding.
7. What is an abstract class?
8. How do you prevent a method from being overridden? How do you prevent a class from being inherited?
9. Explain how inheritance, method overriding, and abstract classes are used to support polymorphism.
10. What class is a superclass of every other class?
11. A class that contains at least one abstract method must, itself, be declared abstract. True or False?
12. What keyword is used to create a named constant?