Interface Assessment

1. (Select all that apply) Interfaces can have _____ .   **1 / 1 point**

☐ Methods that refer to non-static-final attributes

☑ Abstract methods

> ✓ **Correct**
> Correct

☑ Attributes that are static and final

> ✓ **Correct**
> Correct, and that is implicit for any attributes on an interface

☑ JavaBeans properties

> ✓ **Correct**
> Sure. Abstract, yes, but they can be declared and thus polymorphic.

☑ Methods with code

✓ **Correct**
As of Java 8, yes, we can have both default and static methods on interfaces. But they can only reference other methods or constants. There is no data to reference.

☐ Attributes that are not final

2. (Select all that apply) Interfaces _____.   `1 / 1 point`

☑ Can extend multiple other interfaces

✓ **Correct**
Correct

☐ Can implement one or more interfaces

☑ Provide polymorphism to classes that have nothing in common other than that they all implement that interface.

✓ **Correct**
Yes, this is literally why they exist.

☐ Can extend one, but only one, class

3. Where the java.lang.Math class introduced in Java 8, could it have been an interface?   `1 / 1 point`

◉ Yes.

○ No.

✓ **Correct**
Correct. It contains nothing but static members.

4. Where the java.lang.System class introduced in Java 8, could it have been an interface?   `1 / 1 point`

○ Yes.

◉ No.

✓ **Correct**
Correct. Even though they are static, members of System such as out and err can be modified.

5. (Select all that apply) Classes in Java can _____.

1 / 1 point

☑ Extend exactly one other class

✓ **Correct**
Correct

☐ Extend one or more classes

☑ Implement as many interfaces as they want

✓ **Correct**
Correct.

☐ Extend one or more interfaces

6. To implement a default method, one must _____ .

1 / 1 point

◯ Replace the ';' with a {}-block.

◯ Use the keyword abstract.

◉ Use the keyword default and provide a code body.

✓ **Correct**
Correct

7. (Select all that apply) Static and default methods _____ .

1 / 1 point

☑ Must have code bodies.

✓ **Correct**
Correct

☐ Can refer to the instance data of the implementing class.

☑ Can refer to methods of the interface and/or static members of other interfaces and/or classes.

✓ **Correct**
Correct

8. Interfaces are best used to _____ .

○ Provide a common implementation to child classes.

◉ Provide polymorphism throughout Java, regardless of class inheritance.

✓ **Correct**
Correct

9. **In the following code _____ .**

```
Interface EmployeeService {

  static String END_POINT = "http://localhost:8080/employees";


  public Employee[] findAll();

  Employee findByID(int empID);


  EmployeeService(String endPoint);

}
```

○ The END_POINT variable can be changed at runtime to point to the real service, since it is not final.

◉ The constructor declaration is invalid.

○ The findByID method has default (package) scope.

✓ **Correct**
Correct.

10. True or false: Interfaces are the key to polymorphism in Java.

◉ True

○ False

✓ **Correct**
Yes, as we've repeatedly covered in class.