What is defined in the JVM specification?

- The ISA ("bytecodes")
- The class file format
- The algorithm used for verifying class files

What is the term "class file format" misleading?

JVM bytecode does not to be stored in a file. It can come from other sources, like a networked host or a database.

What are the JVM's four data spaces?

- Class area (code + constants)
- Java stack
- Heap
- Native method stacks

What goes into a class?

- Superclass
- Interfaces
- Fields
- Methods
- Constants

Once a class has been loaded ...

... it cannot be changed in any way.

Each field and field is associated with what?

- A descriptor which indicates the kinds of values the field can hold, or the parameter and return types of a method.
- A list of modifiers.

What goes in the stack frame?

- An operand stack.
- An array of local variables.
- A program counter pointing at some instruction in the method implementation.

When is an object protected from garbage collection?

- If it is specially designated by the JVM for implementation purposes.
- If there is a stack reference to the object.
- If there is a reference to the object in a static field.
- If there is a reference to the object in a field of a protected object.

What happens to an object whose finalize
method stores this somewhere
protectedfrom the garbage collector?

The object will not be garbage collected.

However, finalize will **not** be run again if the object again becomes eligible for garbage collection.