

## 8.12 static Import

In [Section 6.3](#), you learned about the `static` fields and methods of class `Math`. We access class `Math`'s `static` fields and *methods* by preceding each with the class name `Math` and a dot (`.`). A `static import` declaration enables you to import the `static` members of a class or interface so you can access them via their *unqualified names* in your class—that is, the class name and a dot (`.`) are *not* required when using an imported `static` member.

## static Import Forms

A `static` import declaration has two forms—one that imports a particular `static` member (which is known as **single static import**) and one that imports *all* `static` members of a class (known as **static import on demand**). The following syntax imports a particular `static` member:

---

```
import static packageName.ClassName.staticMemberName;
```



where *packageName* is the package of the class (e.g., `java.lang`), *ClassName* is the name of the class (e.g., `Math`) and *staticMemberName* is the name of the `static`

field or method (e.g., PI or abs). In the following syntax, the asterisk (\*) indicates that *all static* members of a class should be available for use in the file:

---

```
import static packageName.ClassName.*;
```

**static** import declarations import *only static* class members. Regular **import** statements should be used to specify the classes used in a program.

## Demonstrating static Import

Figure 8.14 demonstrates a **static** import. Line 3 is a **static** import declaration, which imports *all static* fields and methods of class **Math** from package **java.lang**. Lines 7–10 access the **Math** class’s **static** methods **sqrt** (line 7) and **ceil** (line 8) and its **static** fields **E** (line 9) and **PI** (line 10) *without* preceding the field names or method names with class name **Math** and a dot.



## Common Programming Error 8.7

*A compilation error occurs if a program attempts to import two or more classes' static methods that have the same signature or static fields that have the same name.*

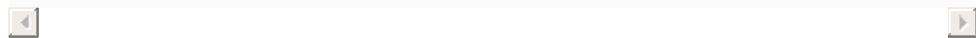
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```
1 // Fig. 8.14: StaticImportTest.java
2 // Static import of Math class methods.
3 import static java.lang.Math.*;
4
5 public class StaticImportTest {
6     public static void main(String[] args) {
7         System.out.printf("sqrt(900.0) = %.1f%n",
8             System.out.printf("ceil(-9.8) = %.1f%n", c
9             System.out.printf("E = %f%n", E);
10            System.out.printf("PI = %f%n", PI);
11        }
12    }
```



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```
sqrt(900.0) = 30.0
ceil(-9.8) = -9.0
E = 2.718282
PI = 3.141593
```



## Fig. 8.14

static import of Math class methods.