

## REVIEW LESSON

MTA Course: 10754 Microsoft .NET Fundamentals

Lesson name: Microsoft .NET Fundamentals 2.5

Topic: Understand and use different data types in the .NET Framework (One 50-minute class period)

File name: 10754\_Msft.NET\_RL\_2.5

### Lesson Objective

**2.5:** Understand and use different data types in the .NET Framework. *This objective may include but is not limited to:* understanding intrinsic data types, values types, reference types, boxing, unboxing, and .NET collection classes.

### Preparation Details

#### Prerequisite student experiences and knowledge:

This MTA Certification Exam Review lesson is written for students who have learned about application programming with the Microsoft® .NET Framework. Students who do not have the prerequisite knowledge and experiences cited in the objective will find additional learning opportunities using resources such as those listed in the “Resources” section at the end of this review lesson.

#### Instructor preparation activities:

- Make copies available of the Student Activity document 10754\_Msft.NET\_SA\_2.5.

#### Resources, software, and additional files needed for this lesson:

- 10754\_Msft.NET\_PPT\_2.5
- 10754\_Msft.NET\_SA\_2.5
- 10754\_Msft.NET\_SA\_2.5\_key

## **Teaching Guide**

### **Essential Vocabulary**

**array**—a data structure that contains a number of variables of the same type. Generally, square brackets are used to refer to individual members of the array.

**boxing**—the process of converting a value type to an object type; this allows the value to be treated as an object.

**collection**—a specialized class for storing and retrieving groups of related or similar data.

**data type**—a classification that determines how data is stored and what operations can be performed on the data.

**reference type**—a data type that stores a pointer or reference to a memory location where a value is stored.

**unboxing**—the process of extracting a value type from an object type.

**value type**—a data type that stores an actual value.

## **Lesson Sequence**

### **Activating prior knowledge/lesson staging (5–10 minutes):**

1. Direct the students to answer the prompt about variables as indicated on the “Anticipatory Set” slide in the presentation.
2. If time allows, direct the students to share their responses with the group.

### **Lesson activity (30 minutes):**

1. Use the Microsoft PowerPoint® presentation to review data types.

### **Assessment/lesson reflection (10–15minutes):**

1. Direct the students to complete the Student Activity document 10754\_Msft.NET\_SA\_2.4.

### **Resources:**

- **MSDN®: Types (C# Programming Guide)**  
<http://msdn.microsoft.com/en-us/library/ms173104.aspx>
- **MSDN: Data Type Implementation (Visual Basic®)**  
<http://msdn.microsoft.com/en-us/library/esc8tb11.aspx>

- **MSDN: Collection Classes (C# Programming Guide)**  
*<http://msdn.microsoft.com/en-us/library/ybcx56wz.aspx>*  
*<http://msdn.microsoft.com/en-us/library/ms973231.aspx>*