

STUDENT ACTIVITY 2.2_KEY: UNDERSTAND OBJECT ORIENTED CONCEPTS

MTA Course: 10754 Microsoft .NET Fundamentals

Topic: Understand object-oriented concepts in the .NET Framework

File name: 10754_Msft.NET_SA_2.2_key

Lesson Objective

2.2: Understand object-oriented concepts in the Microsoft® .NET Framework. *This objective may include but is not limited to:* understanding how inheritance works in .NET, polymorphism, and interfaces

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

- None

Directions to the student:

Answer the following questions. Ask your instructor to further explain concepts that you do not understand fully. The instructor will verify your work.

Content:

Questions 1-3 refer to the *Person*, *Student*, and *Teacher* class partially defined below.

```
public class Person
{

public void Walk()
{
Console.WriteLine("This is a Person walking.");
}

}

public class Student :Person
{

public void Walk()
{
Console.WriteLine("This is a Student walking.");
}
```

```

}

public class Teacher :Person
{
    public void Walk()
    {
        Console.WriteLine("This is a Teacher walking.");
    }
}

```

1. Indicate which of the following declarations will cause a compile-time error.

- a. `PersoninstanceA = new Person();` *// no error*
- b. `PersoninstanceB = new Teacher();` *//no error*
- c. `TeacherinstanceC = new Teacher();` *// no error*
- d. `TeacherinstanceD = newPerson();` *// error*
- e. `StudentinstanceE = new Teacher();` *// error*

2. Consider the following declarations:

```

Personjohn = new Person();
Teachertomas = new Teacher();
Personluisa = new Teacher();

```

Identify the following assignments as valid or invalid.

- a. `john = tomas;` *// valid*
- b. `tomas = (Teacher) luisa;` *// valid*
- c. `john= (Teacher) tomas;` *// valid*

3. Consider the following declarations:

```

Personjohn = new Person();
Teachertomas = new Teacher();
Personluisa = new Teacher();

```

Predict the output of the following code segment:

```

john = tomas;
john.walk();
luisa.walk();

```

This is a Teacher walking.
This is a Teacher walking.