**1. What is the primary purpose of inheritance in C#?**

A) To create multiple instances of a class  
B) To define a class based on another class and reuse code  
C) To execute multiple threads simultaneously  
D) To store data in memory

**Answer:** B) To define a class based on another class and reuse code

**2. In C#, what is the base class in an inheritance hierarchy?**

A) The class that is inherited from  
B) The class that inherits another class  
C) A class with only static methods  
D) A class that cannot be instantiated

**Answer:** A) The class that is inherited from

**3. Which keyword is used to indicate inheritance in C#?**

A) extends  
B) inherits  
C) : (colon)  
D) implements

**Answer:** C) : (colon)

**4. What is the IS-A relationship in inheritance?**

A) It refers to an instance of a class  
B) It means a derived class is a specialized type of a base class  
C) It is used to define a constructor  
D) It is a way to override a method

**Answer:** B) It means a derived class is a specialized type of a base class

**5. What is the output of the following C# code?**

class Shape {

protected int width = 5;

protected int height = 7;

}

class Rectangle : Shape {

public int getArea() {

return width \* height;

}

}

class Program {

static void Main() {

Rectangle rect = new Rectangle();

Console.WriteLine(rect.getArea());

}

}

A) 35  
B) 12  
C) Compilation error  
D) 0

**Answer:** A) 35

**6. How can a derived class initialize a base class constructor?**

A) Using the super keyword  
B) Using the base keyword  
C) By calling the base class method explicitly  
D) By overriding the base class constructor

**Answer:** B) Using the base keyword

**7. What does C# use to achieve multiple inheritance?**

A) Direct multiple inheritance  
B) Interfaces  
C) Abstract classes  
D) Private constructors

**Answer:** B) Interfaces

**8. In C#, which access modifier allows a base class member to be accessed only within the derived class?**

A) Public  
B) Private  
C) Protected  
D) Internal

**Answer:** C) Protected

**9. What happens if a base class has a constructor with parameters and a derived class does not explicitly call it?**

A) Compilation error occurs  
B) Default constructor of base class is called  
C) The derived class creates a new constructor  
D) The compiler automatically generates default values

**Answer:** A) Compilation error occurs

**10. If a base class method is overridden in a derived class, which keyword is used to access the base class version?**

A) override  
B) base  
C) super  
D) new

**Answer:** B) base