# 1. Answer these questions

## Question 1

Which of the following is NOT a benefit of using the Kotlin language?

Your code compiles faster in Kotlin.

## Question 2

How do you start the Kotlin REPL?

Create a Kotlin project in IntelliJ IDEA, then select **Tools > Kotlin > Kotlin REPL**.

## Question 3

Which of the following is NOT true about Kotlin and Java code?

Kotlin code will run faster than Java code.

# 2. Answer these questions

## Question 1

Which of the following declares an unchangeable list of strings?

`val school = listOf("shark", "salmon", "minnow")`

## Question 2

What will be the output of the following code? `for (i in 3..8 step 2) print(i)`

**357**

## Question 3

What is the purpose of the question mark in this code? `var rocks: Int? = 3`

The variable `rocks` can be set to null.

# 3. Answer these questions

## Question 1

The `contains(element: String)` function returns `true` if the string `element` is contained in the string it's called on. What will be the output of the following code?

```
[pagoda, plastic plant, flowerpot]
```

## Question 2

In the following function definition, which one of the parameters is required? `fun` shouldChangeWater (day: String, temperature: Int = 22, dirty: Int = 20, numDecorations: Int = 0): Boolean {...}

```
day
```

## Question 3

You can pass a regular named function (not the result of calling it) to another function. How would you pass increaseDirty( start: Int ) = start + 1 to updateDirty(dirty: Int, operation: (Int) -> Int)?

```
updateDirty(15, increaseDirty())
```

# 4. Answer these questions

## Question 1

Classes have a special method that serves as a blueprint for creating objects of that class. What is the method called?

A constructor

## Question 2

Which of the following statements about interfaces and abstract classes is NOT correct?

Interfaces and abstract classes can be instantiated directly.

## Question 3

Which of the following is NOT a Kotlin visibility modifier for properties, methods, etc.?

`Nosubclass`

## Question 4

Consider this data class: `data class Fish(val name: String, val species:String, val colors:String)` Which of the following is NOT valid code to create and destructure a `Fish` object?

```
val (name4, species4, colors4) = Fish("Harry", "halibut")
```

## Question 5

Let's say you own a zoo with lots of animals that all need to be taken care of. Which of the following would NOT be part of implementing caretaking?

An `abstract Caretaker` class from which you can create different types of caretakers.

# 5. Answer these questions

## Question 1

Which one of the following returns a copy of a list?

`reversed()`

## Question 2

Which one of these extension functions on `class AquariumPlant(val color: String, val size: Int, private val cost: Double, val leafy: Boolean)` will give a compiler error?

```
fun AquariumPlant.isExpensive() = cost > 10.00
```

## Question 3

Which one of the following is not a place where you can define constants with `const val`?

in regular classes

# 6. Answer these questions

## Question 1

In Kotlin, SAM stands for:

Single Abstract Method

## Question 2

Which one of the following is not a Kotlin Standard Library extension function?

`run()`

## Question 3

Which one of the following is not true of lambdas in Kotlin?

Lambdas are anonymous functions.

## Question 4

Labels in Kotlin are indicated with an identifier followed by:

`@`