

## A. ES6 function returns

### Snippet 1:

```
const add = (a, b) => {  
  return a + b;  
};
```

```
const result1 = add(3, 4);
```

```
// Question 1: What is the value of the result1?
```

```
console.log(result1); // Output: 7
```

### Snippet 2:

```
const greet = (name) => {  
  return { name };  
};
```

```
const message = greet("Alice");
```

```
// Question 2: What is the value of the message?
```

```
console.log(message); // Output: { name: "Alice" }
```

### Snippet 3:

```
const calculateArea = (radius) => {  
  const PI = 3.14159;  
  const area = PI * radius * radius;  
  return area;  
};
```

```
const area = calculateArea(5);
```

```
// Question 3: What is the value of area?
```

```
console.log(area); // Output: 78.53975
```

**Snippet 4:**

```
const multiply = (a, b) => a * b;
```

```
const result2 = multiply(2, 5);
```

```
// Question 4: What is the value of the result2?
```

```
console.log(result2); // Output: 10
```

**Snippet 5:**

```
const isEven = (num) => {
```

```
  if (num % 2 === 0) {
```

```
    return true;
```

```
  } else {
```

```
    return false;
```

```
  }
```

```
};
```

```
const evenNumber = isEven(8);
```

```
// Question 5: What is the value of evenNumber?
```

```
console.log(evenNumber); // Output: true
```

**Snippet 6:**

```
const sayHello = () => {
```

```
  return "Hello!";
```

```
};
```

```
const hello = sayHello();
```

```
// Question 6: What is the value of hello?
```

```
console.log(hello); // Output: "Hello!"
```

**Snippet 7:**

```
const calculateSquare = (num) => num * num;
```

```
const squaredNumber = calculateSquare(4);
```

```
// Question 7: What is the value of squaredNumber?
```

```
console.log(squaredNumber); // Output: 16
```

**Snippet 8:**

```
const divide = (a, b) => {
```

```
  if (b === 0) {
```

```
    return "Error: Division by zero.";
```

```
  }
```

```
  return a / b;
```

```
};
```

```
const result3 = divide(10, 2);
```

```
const result4 = divide(8, 0);
```

```
// Question 8: What are the values of result3 and result4?
```

```
console.log(result3); // Output: 5
```

```
console.log(result4); // Output: "Error: Division by zero."
```

**B. Anonymous functions**

File: anonymous\_functions.js

**Task:1**

```
const sum = (a, b) => a + b;
```

```
console.log(sum(3, 5)); // Output: 8
```

**Task:2**

```
const numbers = [1, 2, 3, 4, 5];
```

```
const squaredNumbers = numbers.map((num) => num * num);
```

```
console.log(squaredNumbers); // Output: [1, 4, 9, 16, 25]
```

**C. JavaScript arrow function**

```
// Step 1: Create the calculateSquare arrow function
```

```
const calculateSquare = (number) => number * number;
```

```
// Step 2 & 3: Call the `calculateSquare` function with numbers: 5, 8, and 12 and Stored the results in separate variables.
```

```
const square1 = calculateSquare(5);
```

```
const square2 = calculateSquare(8);
```

```
const square3 = calculateSquare(12);
```

```
// Step 4: Print the results to the console
```

```
console.log(square1); // Output: 25
```

```
console.log(square2); // Output: 64
```

```
console.log(square3); // Output: 144
```