◆ Question 1

```
let a = 10;
let b = 5;
let c = 10;
console.log(a === c);
```

✅ **Solution**: `true`

🔍 Explanation: `a` and `c` are both `10` and of same type (`number`).

◆ Question 2

```
let x = 7;
x += 3;
console.log(x == 10);
```

✅ **Solution**: `true`

🔍 Explanation: `x += 3` → `x = 10`. Then compared with `== 10`.

◆ Question 3

```
let a = 20;
let result = (a > 15 && a < 30);
console.log(result);
```

✅ **Solution**: `true`

🔍 Explanation: Both conditions are `true`.

◆ **Question 4**

let score = 45;
score -= 5;
console.log(score >= 50);

✅ **Solution**: `false`

🔍 Explanation: `score` becomes `40`, which is not `>= 50`.

◆ **Question 5**

let isActive = false;
console.log(!isActive);

✅ **Solution**: `true`

🔍 Explanation: Logical NOT `!false` = `true`.

◆ **Question 6**

let x = 5;
let y = 8;
let output = (x == 5 || y == 10);

```
console.log(output);
```

✅ **Solution**: `true`

🔍 Explanation: One condition is true (`x == 5`), so `||` gives `true`.

◆ **Question 7**

```
let x = 3;
x *= 2;
let result = (x !== 6);
console.log(result);
```

✅ **Solution**: `false`

🔍 Explanation: `x = 6`, so `x !== 6` is `false`.

◆ **Question 8**

```
let a = 12;
let b = 4;
let result = (a < 10 || b > 2);
console.log(result);
```

✅ **Solution**: `true`

🔍 Explanation: Second condition `b > 2` is true.

◆ **Question 9**

```
let marks = 33;
marks += 2;
console.log(marks < 35 && marks > 30);
```

✅ **Solution**: false

🔍 Explanation: `marks = 35`, so `(marks < 35)` is `false`. Whole condition = `false`.

⚠️ Correction: ❌ So **actual output = false**

◆ **Question 10**

```
let val = 15;
val -= 5;
console.log(val == 10 && val !== "10");
```

✅ **Solution**: `true`

🔍 Explanation: `val == 10` is true and type `"10"` is string, so `!==` is also true.

◆ **Question 11**

```
let num = 50;
num -= 20;
console.log(num === 30);
```

✅ **Solution**: `true`

🔍 Explanation: `num = 30`, so strict equality `=== 30` is `true`.

🔹 **Question 12**

```
let x = 8;
x += 2;
console.log(x > 5 && x < 11);
```

✅ **Solution**: `true`

🔍 Explanation: `x = 10`, both conditions are true.

🔹 **Question 13**

```
let status = "active";
console.log(status !== "inactive");
```

✅ **Solution**: `true`

🔍 Explanation: `"active"` is not equal to `"inactive"`.

🔹 **Question 14**

```
let price = 100;
price *= 0.5;
```

```
console.log(price < 80 || price == 50);
```

✅ **Solution**: `true`

🔍 Explanation: `price = 50`, second condition true.

◆ **Question 15**

```
let a = 5;
let b = 10;
console.log(a > b && b > 0);
```

✅ **Solution**: `false`

🔍 Explanation: First condition is false.

◆ **Question 16**

```
let isLoggedIn = true;
console.log(!isLoggedIn);
```

✅ **Solution**: `false`

🔍 Explanation: `!true = false`.

◆ **Question 17**

```
let x = 3;
x += 7;
console.log(x == 10 && x !== "10");
```

✅ **Solution**: `true`

🔍 Explanation: `x == 10` (value match), `"10"` is a string so `!==` is true.

◆ Question 18

```
let marks = 80;
console.log(marks >= 50 && marks <= 100);
```

✅ **Solution**: `true`

🔍 Explanation: `80` is in valid range.

◆ Question 19

```
let temp = 0;
console.log(temp == 0 || temp > 100);
```

✅ **Solution**: `true`

🔍 Explanation: First condition `temp == 0` is true.

◆ **Question 20**

```
let score = 90;
score -= 30;
console.log(score === 60);
```

✅ **Solution**: `true`

🔍 Explanation: `score = 60`, and strictly equal to 60.

◆ **Question 21**

```
let a = 6;
let b = 2;
a /= b;
console.log(a == 3);
```

✅ **Solution**: `true`

🔍 Explanation: `a = 6 / 2 = 3`, so `a == 3` is true.

◆ **Question 22**

```
let age = 25;
console.log(age < 18 || age >= 21);
```

✅ **Solution**: `true`

🔍 Explanation: Second condition is true.

◆ **Question 23**

```
let points = 0;
points += 10;
console.log(points != 5);
```

✅ **Solution**: `true`

🔍 Explanation: `points = 10`, and `10 != 5` is true.

◆ **Question 24**

```
let a = 10;
let b = "10";
console.log(a == b && a === b);
```

✅ **Solution**: `false`

🔍 Explanation: `==` is true (loose equality), `===` is false (strict).

◆ **Question 25**

```
let p = 4;
let q = 8;
console.log(p * 2 == q && q - p == 4);
```

✅ **Solution**: `true`

🔍 Explanation: `4*2 == 8` and `8 - 4 == 4`.

🔹 **Question 26**

let isMember = false;
let age = 17;
console.log(!isMember || age < 18);

✅ **Solution**: `true`

🔍 Explanation: Both conditions are true → OR returns true.

🔹 **Question 27**

let discount = 20;
discount -= 5;
console.log(discount === 15);

✅ **Solution**: `true`

🔍 Explanation: `discount = 15`, so equality is true.

🔹 **Question 28**

let x = 10;

```
let y = 20;
let z = 30;
console.log(x < y && y < z);
```

✅ **Solution**: `true`

🔍 Explanation: All comparisons are true.

◆ **Question 29**

```
let n = 9;
n += 1;
console.log(n !== 10);
```

✅ **Solution**: `false`

🔍 Explanation: `n = 10`, so `n !== 10` is false.

◆ **Question 30**

```
let a = 100;
a /= 10;
console.log(a > 5 && a < 15);
```

✅ **Solution**: `true`

🔍 Explanation: `a = 10`, and `10 > 5 && 10 < 15` is true.