

🛒 JavaScript: Calculating and Formatting Prices with Sales Tax

Let's break this down step by step with **price calculations, rounding, and formatting for display**. ⚡

1📦 Calculating Sales Tax and Total Price

We calculate the **total price** by adding the **sales tax (6.5%)** to the **item price (\$9.95)**.

```
var price = 9.95;
var taxRate = 0.065; // 6.5% tax as a decimal
```

```
var total = price + (price * taxRate);
console.log(total); // Output: 10.59675
```

2📦 Rounding to Two Decimal Places

We use `.toFixed(2)` to round the total amount to **two decimal places** for display.

```
var prettyTotal = total.toFixed(2);
console.log(prettyTotal); // Output: "10.60" (String format)
```

💡 Why `.toFixed(2)`?

- It ensures the result has **exactly 2 decimal places**.
 - Returns a **string**, not a number.
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3📦 Adding a Dollar Sign for Currency Formatting

We **concatenate** the dollar sign (\$) with `prettyTotal`:

```
var currencyTotal = "$" + prettyTotal;
console.log(currencyTotal); // Output: "$10.60"
```

4📦 Fixing Rounding Issues with `.toFixed(2)`

💡 The `.toFixed(2)` method can **sometimes round down instead of up** for numbers ending in `.5`. Here's a **workaround** to **force correct rounding**:

```
var num = 1.555; // Example problematic number
var str = num.toString();
```

```
if (str.charAt(str.length - 1) === "5") {  
    str = str.slice(0, str.length - 1) + "6"; // Change 5 to 6 to force rounding up  
}  
  
num = Number(str);  
var prettyNum = num.toFixed(2);  
  
console.log(prettyNum); // Ensures "1.56" instead of "1.55"
```

Full Working Code Example

```
var price = 9.95;  
var taxRate = 0.065;  
  
var total = price + (price * taxRate);  
  
// Fix rounding issue  
var str = total.toString();  
if (str.charAt(str.length - 1) === "5") {  
    str = str.slice(0, str.length - 1) + "6";  
}  
total = Number(str);  
  
var prettyTotal = total.toFixed(2);  
var currencyTotal = "$" + prettyTotal;  
  
console.log("Final Price:", currencyTotal); // Output: "Final Price: $10.60"
```

Summary

Task	Method
Calculate total with tax	<code>price + (price * taxRate)</code>
Round to 2 decimal places	<code>.toFixed(2)</code>
Fix rounding issues	Convert to string → Modify last digit if "5" → Convert back
Format with \$ sign	<code>"\$" + total.toFixed(2)</code>