Announcements

- **First exam is on Monday 03/05 (One week from today).**

Return Quizzes

- **Listen for your group….**
- **Let's go over the answers quickly**

Type Conversions

Usually JavaScript automatically converts things:

```
string1 = "40";
string2 = "30";
product = string1 * string2;   // works
```

It doesn't always work out…

Example: NumberConversion1.html

Type Conversions

To convert from string to number:

```
"40"              // This is a String (text)

Number("40")      // This is the number 40
```

Always Use Number function when prompting for a numerical value.

```
var size = Number(prompt("Enter size: "));
```

Example: NumberConversion2.html

More Math…

There are lots of built-in math functions.

Examples:

- `result = Math.abs(-7);`   `// result will be 7`
- `result = Math.max(3, 23);`   `// result will be 23`
- `result = Math.min(3, 23);`   `// result will be 3`
- `result = Math.sqrt(16);`   `// result will be 4`
- `result = Math.PI;`   `// 3.1415926….`
- `result = Math.random();`   `// result will be a`
                                  `// random value`
                                  `// between 0 and 1`

Comparisons and Boolean Variables

Comparison Operators

These work as you would expect:

x < y

x > y

x <= y

x >= y

These are "boolean expressions" (either true or false)

Equality Operators

Checking for equality is confusing

There are TWO equality operators:

`x == y`   true if x and y evaluate to the same value

`x === y`   true if x and y are the same TYPE and also evaluate to the same value

We strongly favor using ===   (You'll see why later...)

Example:

```
x = 5;
y = "5";
x == y   // this is true
x === y  // this is false
```

Equality Operators

Two more operators:

x != y   **opposite of**   **x == y**

x !== y   **opposite of**   **x === y**

If-Statement

Behavior depends on a "condition"…

Simple Example:

```
x = Number(prompt("Enter first value: "));
y = Number(prompt("Enter second value: "));
if ( x < y ) {
        alert("THE FIRST VALUE WAS SMALLER");
}
alert("That was fun.");
```

Example: IfStatements.html