# JavaScript Operations

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## Arithmetic $y=5$

| | Example | Result |
|---|---|---|
| + addition | x=y+2 | y=5, x=7 |
| - subtraction | x=y-2 | y=5, x=3 |
| * multiplication | x=y*2 | y=5, x=10 |
| ** Exponentiation | x=y**2 | y=5, x=25 |
| / Division | x=y/2 | y=5, x=2.5 |
| % Remainder | x=y%2 | y=5, x=1 |
| ++ Pre increment | x=++y | y=6, x=6 |
| ++ Post increment | x=y++ | y=6, x=5 |
| -- Pre decrement | x=--y | y=4, x=4 |
| -- Post decrement | x=y-- | y=4, x=5 |

## Assignment $x=10$ $y=5$

| | Example | Same As | Result |
|---|---|---|---|
| = | x=y | x=y | x=5 |
| += | x+=y | x=x+y | x=15 |
| -= | x-=y | x=x-y | x=5 |
| *= | x*=y | x=x*y | x=50 |
| /= | x/=y | x=x/y | x=2 |
| %= | x%=y | x=x%y | x=0 |
| : | x:45 | Size.x=45 | x=45 |

## String Given that t1="Good," t2="Morning," and t3=""

| | Example | t1 | t2 | t3 |
|---|---|---|---|---|
| + | t3=t1+t2 | "Good" | "Morning" | "Good Morning" |
| += | t1+=t2 | "Good Morning" | "Morning" | |

## Comparison $x = 5$

| | | Comparing | Returns |
|---|---|---|---|
| == | equal to | x == 8 | false |
| == | equal to | x == 5 | true |
| === | equal value & type | x === "5" | false |
| === | equal value & type | x === 5 | true |
| != | not equal | x != 8 | true |
| !== | not equal value or type | x !== "5" | true |
| !== | not equal value or type | x !== 5 | false |
| > | greater than | x > 8 | false |
| < | less than | x < 8 | true |
| >= | greater or equal to | x >= 8 | false |
| <= | less or equal to | x <= 8 | true |

## Conditional (Ternary)

(condition) ? x : y

Example

(z < 18) ? x : y

## Logical $x = 6$ $y = 3$

| | | Example |
|---|---|---|
| && | AND | (x < 10 && y > 1) is true |
| \|\| | OR | (x === 5 \|\| y === 5) is false |
| ! | NOT | !(x === y) is true |

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