

Multiply both Sides

What: Multiply both sides of $==$ by the same expression.

Why: Such side-wise multiplication is an essential computation for solving equations.

Time to Complete: 4 hours.

```
eq = (x - 3 == y / 13);  
  
lhs = eq.left * 13;  
rhs = eq.right * 13;  
  
eq2 = (lhs == rhs);  
  
show eq2;
```

Output

"eq2" → $13*(-3 + x) == y$

Output

```
"eq2" → 13*(-3 + x) == y
```

Apply `expand[]` to one side

```
eq = (x - 3 == y / 13);  
  
lhs = eq.left * 13;  
rhs = eq.right * 13;  
  
eq2 = (lhs == rhs);  
  
show eq2;  
  
lhs = expand[eq2.left];
```

```
rhs = eq2.right;  
  
eq3 = (lhs == rhs);  
  
show eq3;  
  
save as lhsrhs;
```

Output

```
"eq2" → 13*(-3 + x) == y  
"eq3" → -39 + 13*x == y
```

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