

Equal or Not Equal

Whenever you add, subtract, multiply, or divide two equal quantities by the same amount, the two resulting quantities will be equal to each other.

Equals added to equals are equal.

You know $4 + 5 = 9$.
Therefore, $4 + 5 + 10 = 9 + 10$.

Equals subtracted from equals are equal.

You know $10 + 12 = 22$.
Therefore, $(10 + 12) - 18 = 22 - 18$.

Equals multiplied by equals are equal.

You know $2 \times 5 = 10$.
Therefore, $2 \times 5 \times 3 = 10 \times 3$.

Equals divided by equals (except 0) are equal.

You know $10 + 11 = 21$.
Therefore, $(10 + 11) \div 7 = 21 \div 7$.

Answer each question. Tell why or why not.

1. You know $48 \div 8 = 6$. Does $(48 \div 8) \times 9 = 6 \times 9$?

2. Given the equation $8 \times w = 152$, does $8 \times w \times 3 = 152 \div 3$?

3. You know $250 \div 5 = 50$. Does $(250 \div 5) \times 5 = 50 \times 5$?

4. Given the equation $12 \times x = 144$, does $(12 \times x) \div 4 = 144 \div 4$?

5. You know $23 + 32 = 55$. Does $(23 + 32) - 44 = 55 \div 44$?
