

Lesson #3

Solving Equations Using One or Two Transformations

Solving Equations

- In solving an equation, your goal is to isolate the variable using _____.
- Addition and subtraction are inverse operations.
- Multiplication and division are inverse operations.

Solving Equations using One Transformation

1) $x + 5 = 10$

2) $x - 5 = 13$

3) $x - 3 = 6$

4. $x - 4 = -1$

When combining integers...

Same signs - _____

Different signs - _____

5. $x + (-6) = -10$

6. $x - 3 = -10$

7. $-5x = 40$

When multiplying and dividing integers...

Same signs - answer is

_____.

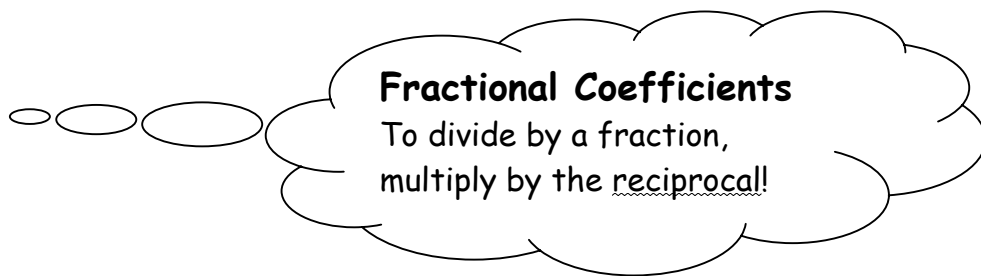
Different signs - answer is

_____.

8. $-3x = -18$

9. $\frac{x}{4} = -7$

10. $-\frac{1}{2}x = -6$



Solving Equations using Two Transformations

11. $2x + 3 = 11$

Step 1: Simplify both sides of the equation.
Step 2: Use inverse operations to isolate the variable. Perform inverse operations for addition and subtraction first, then multiplication and division.

12. $2 - 4x = 18$

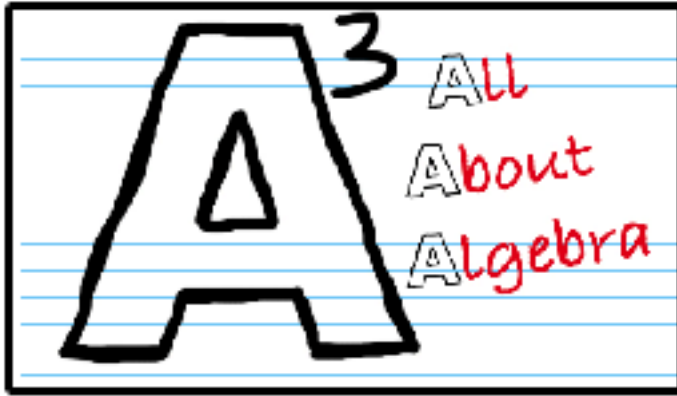
13. $-\frac{1}{2}x + 3 = -4$

14. $5x + 4 - 8x = 13$

15. $\frac{1}{2}(4x + 8) = 10$

16. $2 - 3(2 - x) = 8$

17. $75x - 3(5x + 18) = -174$



Just for FUN!

Solution to Summer Vacation

K = Kathy W = Wally C = Carolyn G = Gary

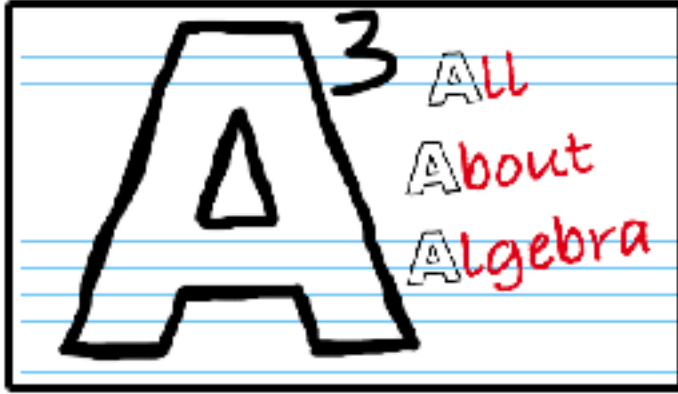
- 1) $W > K + C$
- 2) $K + W = C + G$
- 3) $C + G > W + C$

From 2 and 3 - $K + W > W + C$

From 1 - $W > K$ and $W > C$

From 3 - $G > W$

Therefore $G > W > K > C$.



Just for FUN!

Place the integers 1, 2, 3, 4, 5, 6, 8, 9, 10 and 12 (7 and 11 are not included) at the intersection of the line segments so that the sum on any line equals the sum on any other line.

