

Chapter 1 Algebra I

1. I know how to add and subtract positive and negative numbers.
2. I know how to add and subtract positive and negative algebraic (like) terms with the same letter raised to the same power.
3. I know how to 'Simplify Algebraic Expressions' by gathering like terms together
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4. I know how to multiply and divide positive and negative numbers and algebraic terms by

Multiplying/Dividing the **sign by sign**

Multiplying/Dividing the **number by number**

Multiplying/dividing the **letter by letter** (adding the powers of the any same letters when multiplying/ subtracting them when dividing)

Keeping in mind that **like signs give plus and unlike signs give negative**

5. I know that when removing brackets in an algebraic expression **a minus sign outside of brackets changes the sign of all the terms inside the brackets.**

$$-(-3) = 3 \quad \text{and} \quad (-3) = -3 \quad \text{and} \quad -(x-2) = -x + 2 \quad \text{and} \quad -(-y+2) = y-2$$

6. I know how to remove brackets to simplify an algebraic expression
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7. I know how to evaluate expressions using **BIMDAS**.
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8. I know I know that 'Solve' means find a numerical value for X (the variable)

9. I can solve linear equations

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10. I know how to solve problems using linear equations

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11. I know that the following rules apply when plotting number lines for linear inequalities

X $\in$ N use Dots**X $\in$ Z use Dots****X $\in$ R use hick Line**

If $<$ $>$ are in the inequality and $X \in \text{N or Z}$ then **don't dot** the number in the answer

If $\leq$ $\geq$ are in the inequality and $X \in \text{N or Z}$ then **do dot** the number in the answer

If $<$ $>$ are in the inequality and $X \in \text{R}$ then **OPEN dot** the number in the answer

If $\leq$ $\geq$ are in the inequality and $X \in \text{R}$ then **FULL dot** the number in the answer

12. I know how to solve linear inequalities by making sure that as good practice

I keep or move x to the left of the inequality and the numbers to the right

I make sure my answer has a positive x ... if x is negative I multiply (or divide) all terms by -1 **AND CHANGE THE DIRECTION OF THE INEQUALITY SIGN**

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