

## CHAPTER 9 : EQUATIONS & INEQUALITIES - LESSON 9.1 : EQUATIONS

For today, students are to read through pages 29 through 32 of their textbook. The first part on page 29 should feel like a continuation of what they have just learned in Chapter 8. Help them to understand that the difference between an equation and an expression is that while an expression is just a statement of terms, such as  $3x + 2$ , an equation is a statement of equality between two expressions, such as  $3x + 2 = 11$ . In this case, this statement of equality is only true when the variable  $x$  is equal to 3, because  $3 * 3 + 2 = 11$ .

It will get slightly more challenging on the next 2 pages as it involves fractions, but it is all the same concept. Have them work through the examples on pages 30 and 31.

Lastly, on page 32, section B deals with balancing equations. This is an extension of what they will have just learned but is a bit more complex. Focus particularly on the second paragraph where it shows inequalities ( $3 \times 4$  does not equal  $5 + 8$ ). Now the challenge becomes helping them understand what to add or subtract to make the statements equal. Help them think of it as balancing weights on a scale. Since 12 does not equal 13, right now the weights are uneven. But if we "add more weight" to 12, by adding 1 we now have an equality. We could achieve an equality likewise by subtracting 1 from 13.

For the last 2 paragraphs dealing with multiplication and division, make sure you emphasize the importance of parentheses. The *\*entire\** expression must be multiplied by some number on both sides for it to work. For example,  $(4 + 2) * 7 = (3 + 3) * 7$ . That is a true statement.  $42 = 42$ . But  $4 + 2 * 7$  is NOT equal to  $3 + 3 * 7$ .  $18$  does not equal  $24$ .

**Please let me know if you have any questions. I will be available to respond in the GroupMe, especially between the hours of 9am and 11am.**