

## Grade 8 Math

### Week #7 (May 20-26)

#### Learning Intentions:

Curricular learning intentions will vary depending on the course material delivered online by your Math Teacher.

#### Assignment Instructions:

If your teacher is: **Ms. Barton, Ms. Taylor:**

- Continue with the assigned work on **Khan Academy**.
  - Go to “Assignments” to see the lessons and activities that your teacher has assigned.

If your teacher is: **Mr. Carlin:**

- Complete the assignment found in Teams. A paper copy can be obtained upon request.

If you teacher is: **Mr. Robinson, Ms. Lawler or Ms. Hopwo:**

- Complete the assignment attached to this document below or find it on Teams.

#### Criteria:

- Student will be assessed on:
  - Achievement on the online course material
  - Interaction with the course material, for example, time spent on course material, completion of the lessons and sample questions

#### Extending your Learning:

- When you have completed the material successfully, your teacher can assign more challenging question

Lawler, Hopwo, Robinson Classes ONLY

Week 7 Math

Distributive Property: (The Rainbow Rule)

If a term (number) is multiplied by a set of brackets, then the term (the number) is multiplied by everything in the brackets. It's called EXPANDING...

$$3(2x - 3)$$

So.. 3 multiplied by  $2x = 6x$

and 3 multiplied by  $3 = 9$

this expression would be

$$6x - 9$$

$$4(b + 6)$$

So, 4 multiplied by  $b = 4b$

and 4 multiplied by  $6 = 24$

this expression would be

$$4b + 24$$

Try these:

$$7(3x + 8)$$

$$6(X - 3)$$

$$-3(x + 7)$$

$$5(8 - C)$$

Then try these and solve for the variable:

$$-4(-5 + a) = -4$$

$$5(a - 7) = -15$$

Here is another example of the distributive property:

**Example 2**

Solve:  $14 = 3(x + 4)$   
Verify the solution.

**A Solution**

$$\begin{aligned}14 &= 3(x + 4) \\ \text{Expand.} \\ 14 &= 3(x + 4) \\ 14 &= 3(x) + (3)(4) \\ 14 &= 3x + 12 \\ 14 - 12 &= 3x + 12 - 12 \\ 2 &= 3x \\ \frac{2}{3} &= \frac{3x}{3} \\ \frac{2}{3} &= x \\ x &= \frac{2}{3}\end{aligned}$$

To verify the solution, substitute  $x = \frac{2}{3}$  into  $14 = 3(x + 4)$ .

$$\begin{aligned}\text{Left side} &= 14 & \text{Right side} &= 3(x + 4) \\ & & &= 3\left(\frac{2}{3} + 4\right) \\ & & &= 3\left(\frac{2}{3} + \frac{12}{3}\right) \\ & & &= 3\left(\frac{14}{3}\right) \\ & & &= 14\end{aligned}$$

Since the left side equals the right side,  $x = \frac{2}{3}$  is correct.

**Solve each equation using Distributive Property. Verify the solution by replacing the variable with the value that you found (as seen in the example above).**

A)  $3(x + 5) = 36$

B)  $4(p - 6) = 36$

C)  $5(y + 2) = 25$

D)  $10(a + 8) = 30$

E)  $-2(a + 4) = 18$

F)  $-3(r - 5) = -27$

**Bonus Extension:**

1) Marc has some hockey cards. His friend gives him 3 more cards. Marc says that if he now doubles the number of cards he has, he will have 20 cards. How many cards did Marc start with?

A) Choose a variable to represent the number of cards Marc started with. Write an equation to model this problem.

B) Solve the equation using the distributive property.

C) Verify the solution. Explain your thinking in words.

2) A student wrote this equation to solve the above problem in question 1:

$$2n + 3 = 20$$

How would you **explain to this student why this is incorrect?**