Hello Math Eagles: May 26 – May 29

This week we will be looking at Theoretical Probability and how we create Equivalent Expressions using the Distributive Property and it’s opposite Factoring.

We start our work out of packet #3. Don’t stress as you work through these but rather explore and work to internalize these definitions. This isn’t something Mr. Stout or I did in class, you are creating. Feel free to use other resources like Khan academy and Youtube math videos using the key words: Probability, Outcomes, and Theoretical Probability. The vocabulary (P.50 in packet) and the problems on the right column introduce you to the problems of Sections 9-1 and 9-2.

So, start by writing out vocabulary (P.50 packet) and move to Section 9-1 on-line or in packet on page 55 and 56. Next, is section 9-2 (overview bottom of Page 50 in packet) and then problems on page 57 and 58 (These are Pages 123 and 124 online text Volume 2).

Equivalent Expression work is Section 5-2 in our text. I have 3 pages to look at and work on. You could also go online and do section 5-2 from our text.

Keep working and thinking. We are now back in our book and really using and creating new problems to solve.

Please remember: We are not trying to stress you out but rather introduce you to the key concepts of 7th grade so that 8th grade Algebra next year will be successful. E-mail with questions and email me with best office hours for you.

Mr. Webster and Mr. Stout
Activity: We will look at 2 main concepts. Creating Equivalent Expressions and Theoretical Probability.

Key Content/Modeling
We will be reading through definitions.
We will use vocabulary and simply not give up.
We will find the Theoretical probability of an event using the definition.
We will create Expressions that don’t look the same but are equivalent. Sometimes they are factored and sometimes we need to use the distributive property.

6(X + 7) This is Equivalent (Equal to)
6X + 42 This process is called Distributing

You Try
Without actually flipping a coin (flipping the coin is called Experimental Probability, next week). What are the Theoretical chances, the likelihood, the probability, it will land on head? What about rolling a 3 on a typical dice? What about rolling an even number?

Prob = #desired outcomes/total #outcomes

Show me what you know (Proof of learning)
E-mail your teacher your best solution for the Theoretical Probability (what should happen) for the You Try’s.

Self-Assessment
Where do you rate your understanding? (1-5, 5 is high) Give me 2 answers. One for Probability and one for Equivalent Expressions.

Extra Learning Opportunities
Be sure you are spending time on Success Maker everyday.

7.SPC.5
Investigate chance processes and develop, use, and evaluate probability models.

7.EE.A.1
Be able to create and recognize Equivalent Expressions.

What am I learning?
How to problem solve Probability questions given certain mathematical events.

Using the Distributive property

How do I know I learned?
I know where to start
I can defend my steps
I am using mathematical vocabulary
I can write my own problems and my family can work to solve them
Explanation#1

We have to apply the distributive property to the expressions.

The expression is: \((9a + 54b)\)

Find a common number or variable that you can use. We are looking for an integer that can easily be divided.

9 is a common number (between 9 and 54).

When we divide 9 we will get:

We will get the answer: \(9(a + 6b)\)

Explanation#2

We have to apply the properties of operations to produce the equivalent expression:

The expression is: \((x + x + x) / 3\)

Let’s rewrite it by adding all the xs together: \(3x / 3\)

Explanation#3

We have to apply the distributive property to the expression to produce the equivalent expression.

The expression is: \(3(5 + x)\)

Now multiply 3 with both the numbers since 3 is outside the bracket.

\(15 + 3x\)

The answer will be: ‘b’
Basic Operations and Equivalent Expressions - Guided Lesson

Complete the following questions:

1) Rewrite the expression:

\[(9a + 54b)\]

2) Apply the properties of operations to produce an equivalent expression:

\[\frac{x + x + x}{3}\]

3) Choose and apply the distributive property to the expression to produce an equivalent expression:

\[3(5 + x)\]

   a. \(15x + 3\)

   b. \(15 + 3x\)

   c. \(3x + 15\)
Write an equivalent expression.

1. 
   $24a + 56b$

2. 
   $7(2x + 9)$

3. 
   $(y + y + y)$

4. 
   $(12a + 60)$

5. 
   $9(3 + 8x)$

6. 
   $(90x + 120)$

7. 
   $t + t + t$
   
   $= \frac{4t}{4}$

8. 
   $6(3 + 6x)$

9. 
   $p + p$
   
   $= \frac{3p}{3}$

10. 
    $2(4x^3 + 2)$