Inspiring Greatness

ISD

INDEPENDENCE SCHOOL DISTRICT

Math Virtual Learning

HS/Essential Math II

April 30, 2020

High School/Essentials of Algebra Course 2
Lesson: April 30, 2020(U4L1 part 1)
Objective/Learning Target:

- Develop flexibility about shifting strategies (using process of elimination)
- Build & practice the habit of looking for “easy” entry points in solving a problem

Bellwork

Sum: Numbers are added together

Product: Numbers are multiplied together

Multiples: the product result of one number multiplied by another number

Who Am I?

- The product of my digits is 4.
- The sum of my digits is 5.
- $t \geq u$

t u

Who Am I?

- The sum of my digits is 8.
- $u \leq t$
- The product of my digits is 15.

t u

Who Am I?

- I am even.
- I am a multiple of 9.
- I am less than 70.
- $t > u$

t u

44 Who Am I?

- I am a multiple of 7.
- My tens digit is less than my units digit.
- Both of my digits are even.

t u

Bellwork - Key

Sum= added together

Product: Numbers are multiplied together

Who Am I?

- The product of my digits is 4.
- The sum of my digits is 5.
- $t \geq u$

t	u
4	1

Who Am I?

- The sum of my digits is 8.
- $u \leq t$
- The product of my digits is 15.

t	u
5	3

Who Am I?

- I am even.
- I am a multiple of 9.
- I am less than 70.
- $t > u$

t	u
5	4

(44)

Who Am I?

- I am a multiple of 7.
- My tens digit is less than my units digit.
- Both of my digits are even.

t	u
2	8

LESSON

In a Latin Square, every row and every column contains one of each element in the title of the puzzle.

① **1, 2, 3** Latin Square

3	2	1
2	1	

② **4, 5, 6** Latin Square

4		5
	5	
5		6

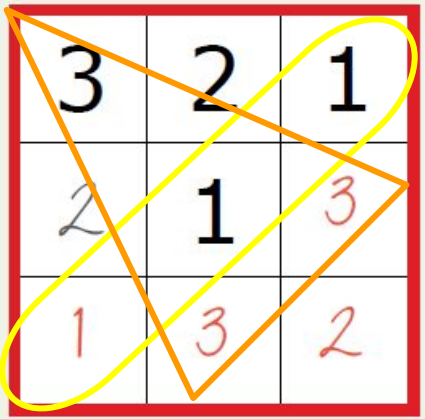
③ **5, 7, 9** Latin Square

	5	
7	9	
		9

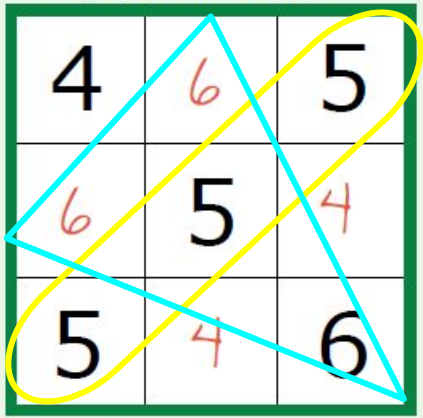
ANSWER

In a Latin Square, every row and every column contains one of each element in the title of the puzzle.

① **1, 2, 3** Latin Square



② **4, 5, 6** Latin Square



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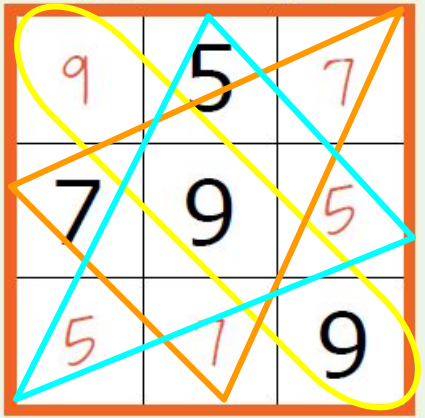
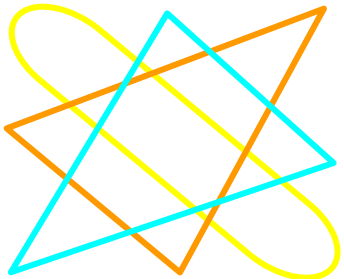


Drawing a star:

Always look for patterns: one number diagnol, & crossed triangles



LESSON

13 MysteryGrid **3, 4, 5**

2,−	3 5	7,+
20,•	4	
	8,+	

14 MysteryGrid **1, 2, 3**

2,−	2,÷	
	12,•	3,÷

15 MysteryGrid **2, 3, 5**

30,•	45,•	
		20,•

MysteryGrid Puzzle Instructions

Just like a Latin Square puzzle, you may write only the numbers that appear in the puzzle's name. Also like a Latin Square, each row and column must contain all the numbers with no repeats.

Each "cage" (space with a heavy border) contains a "target number" and often an operation. The numbers you write in the cage must make the target number using the operation. For example:

- 20, • means make 20 using multiplication.
- 7, + means make 7 using addition.

Which Order?

In a MysteryGrid **3, 4, 5** puzzle, a cage like this must use the 3 and the 5. No other two numbers will work. We know the numbers, but we don't know the order. Either way shown here could be correct:

2,−	

2,−				2,−	
3	5	or		5	3

Until you are sure which order is correct, ***write only what you know for sure***, like this:

2,−	3 5

Everything you write becomes a new clue.

That means "3 and 5 go somewhere in here, but I'm not sure where to put them yet." You will get more information later that will help you figure out which way it goes. Never just guess. That could mess you up.

ANSWER

5 - 3 = 2
3 + 4 = 7
3 + 5 = 8
4 * 5 = 20

MysteryGrid **3, 4, 5**

2,– 3	3 5	7,+ 4
20,• 5	4 4	3
4	8,+ 3	5

3 - 1 = 2
3 / 1 = 3
4 * 3 = 12
2 * 2 * 3 = 12

MysteryGrid **1, 2, 3**

2,– 3	2,÷ 1	2
1	12,• 2	3,÷ 3
2	3	1

6 * 5 = 30
2 * 3 * 5 = 30
9 * 5 = 45
3 * 3 * 5 = 45

MysteryGrid **2, 3, 5**

30,• 2	45,• 5	3
5	3	20,• 2
3	2	5

MysteryGrid Puzzle Instructions

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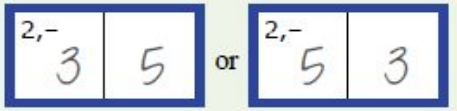

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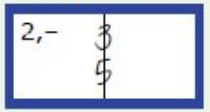

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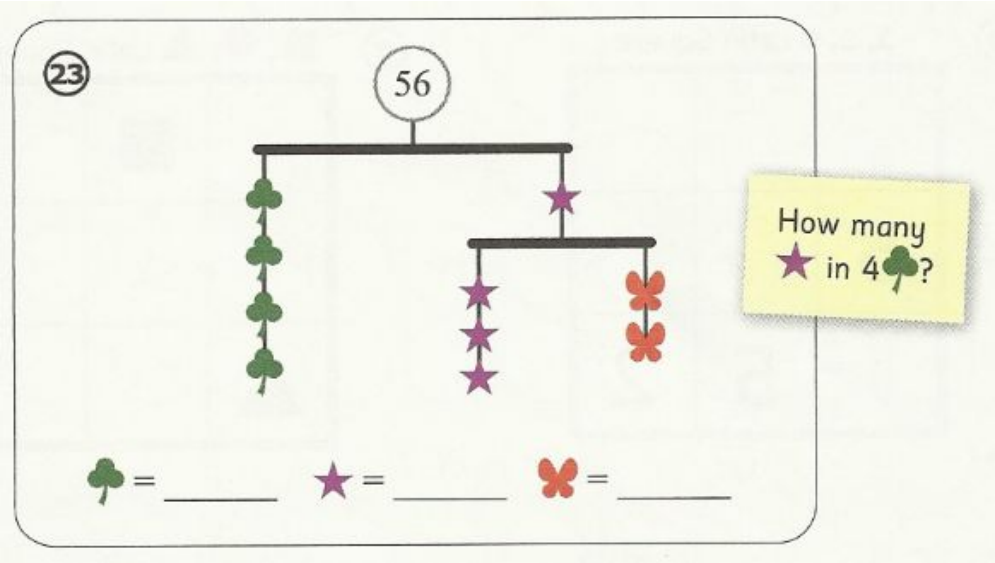
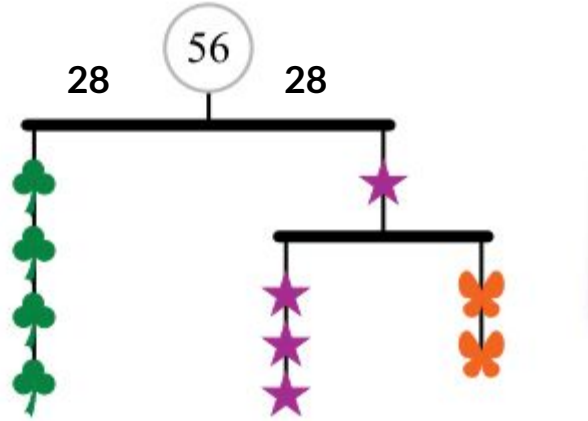
Stuff to Make You Think...



24 Imani, Jay, Kayla, Luis, and Malika are standing in line for a ticket to a movie, and they are standing in the order that they arrived. Luis got there before Imani, but they are not standing next to each other. Kayla arrived with Jay. Imani got there before Malika. Who is first in line to get a ticket?

STUFF TO MAKE YOU THINK ANSWERS

23



28 divided by 4 = 7, so each clover = 7

♣ = 7 ★ = 4 🦋 = 6

The star will have to be an even number so when it is subtracted from 28 the result can be split in half..... If the star was 2 then 28-2=26 and 26 split in half would be 13 and 13 is prime so it cannot be divided by any numbers other than 1 and itself. If the star = 4, then 28-4 =24, half of 24 is 12 and 12 is divisible by both 3 and 2, so star =4 and butterfly = 6

24 Imani, Jay, Kayla, Luis, and Malika are standing in line for a ticket to a movie, and they are standing in the order that they arrived. Luis got there before Imani, but they are not standing next to each other. Kayla arrived with Jay. Imani got there before Malika. Who is first in line to get a ticket? Luis.

Luis was before Imani, but they are not next to each other, so the order is L, __, I. Imani was before Malika, so the order is L, __, I, M. Kayla arrived with Jay, so the order must be L, J&K, I, M with Luis first in line.

Additional Practice

Ⓐ **2, 4, 6** Latin Square

2	6	
	4	2
4	2	

Ⓑ **a, b, c** Latin Square

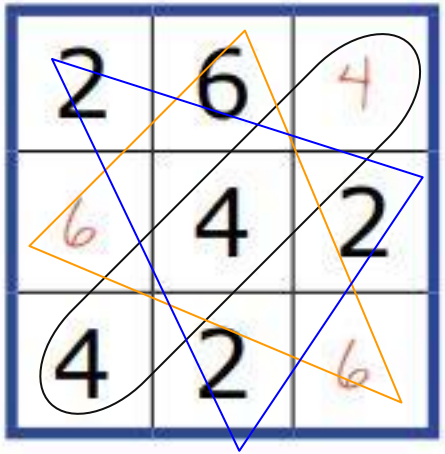
c	*b*	
b	*a*	
		b

Ⓒ **4, 5, 6** Latin Square

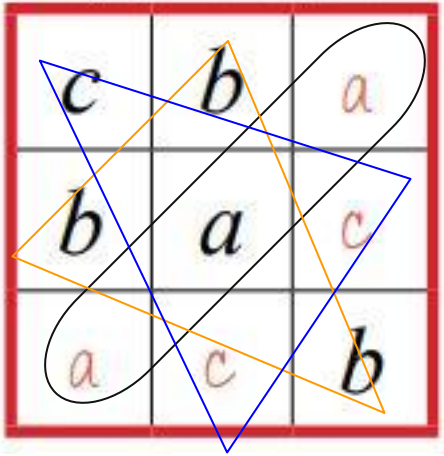
4	6	
	5	4

Additional Practice Key

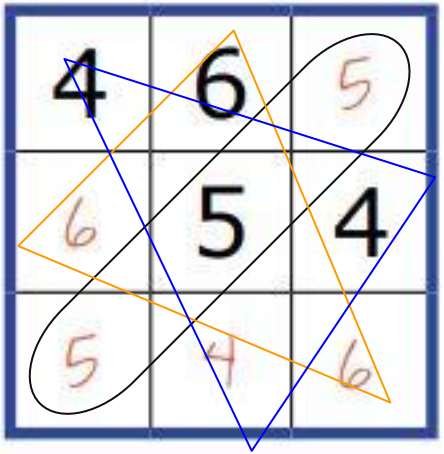
2, 4, 6 Latin Square



Ⓑ **a, b, c** Latin Square



Ⓒ **4, 5, 6** Latin Square



Always look for patterns. In this instance there are 3 patterns. A diagonal pattern and three triangle patterns

Mystery Puzzles can be practiced virtually by clicking on the link below

http://www.kenkenpuzzle.com/play_now

Special thanks to all the people who made and released these awesome resources for free:

- Presentation template by SlidesCarnival
- Photographs by Unsplash