Inspiring Greatness

ISD

INDEPENDENCE SCHOOL DISTRICT

Math Virtual Learning

HS/Essential Math II

May 5, 2020

High School/Essentials of Algebra Course 2

Lesson: May 5, 2020(U4L2 part 2)

Objective/Learning Target:

- Build working memory & the ability to coordinate multiple constraints.
- Sharpen familiarity with properties of numbers & operations
- Sharpen arithmetic skills (recognizing multiples, factors, etc.)

Bellwork Warm Up

(22) Who Am I?

h	t	u

- I am odd.
- My tens digit is a perfect square.
- $h < t < u$
- My hundreds digit is one less than my tens digit.
- $h + t = u$

(23) MysteryGrid **1, 2, 3, 4**

8,•			5,+
8,•	9,•		
	8,+		1
		2,−	

Bellwork Answer Key

22 Who Am I?

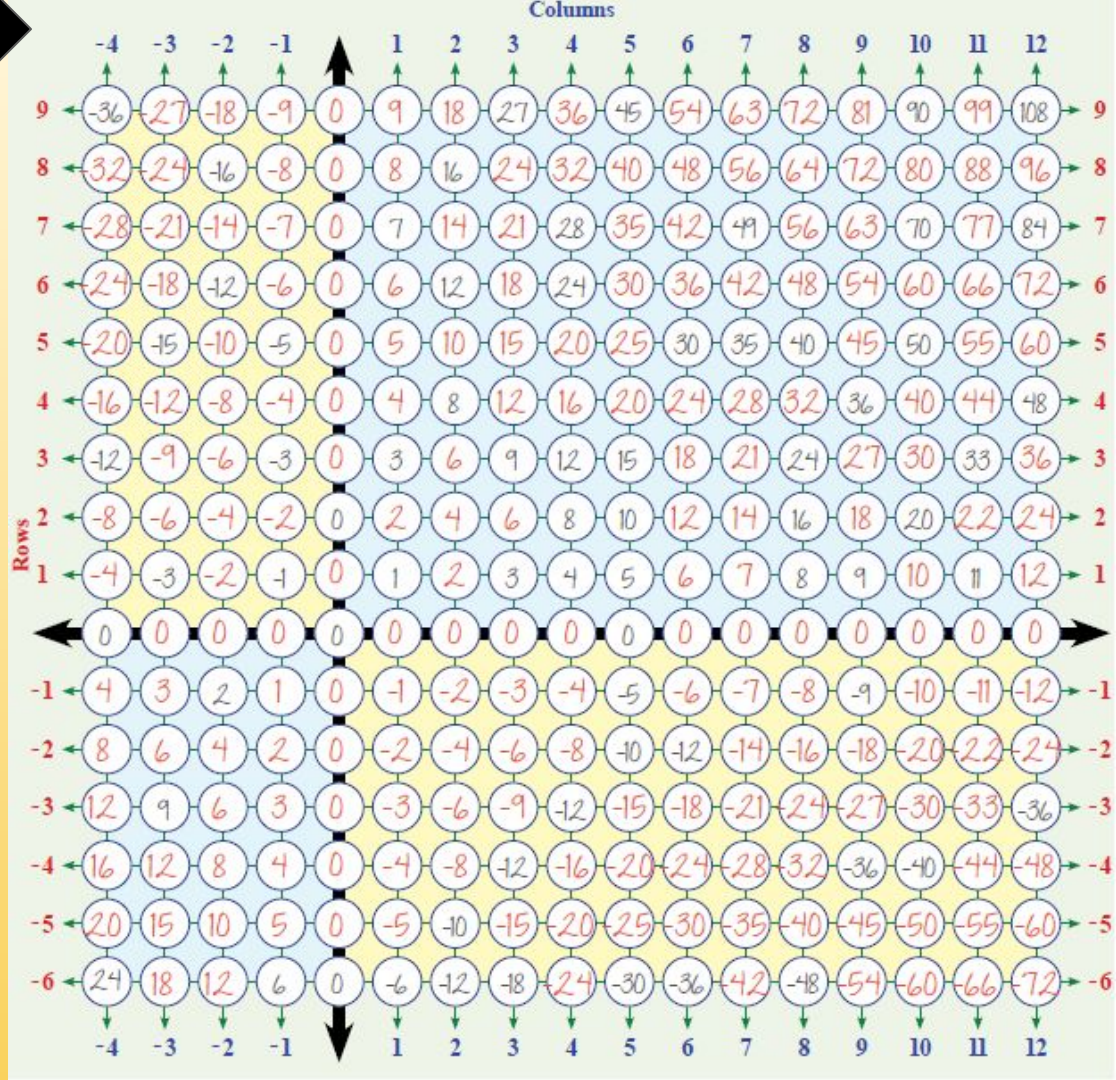
- I am odd.
- My tens digit is a perfect square.
- $h < t < u$
- My hundreds digit is one less than my tens digit.
- $h + t = u$

h	t	u
3	4	7

23 MysteryGrid **1, 2, 3, 4**

8,• 1	2	4	5,+ 3
8,• 4	9,• 3	1	2
2	8,+ 4	3	1 1
3	1	2,− 2	4

FACTORS



Discuss & Write What You Think

⑩ If the product of two numbers is negative, what can you say for sure about the numbers?

⑪ If the product of two numbers is positive, what can you say for sure about the numbers?

⑫ If the product of two numbers is zero, what can you say for sure about the numbers?

Discuss & Write What You Think

(Responses will vary. Examples follow.)

⑩ If the product of two numbers is negative, what can you say for sure about the numbers?

The numbers must have opposite signs (one positive and one negative).

⑪ If the product of two numbers is positive, what can you say for sure about the numbers?

Both numbers must have the same sign (both positive or both negative).

⑫ If the product of two numbers is zero, what can you say for sure about the numbers?

At least one of the numbers must be zero.

#10. Product of two numbers is NEGATIVE

(- 1) (1) = - 1
(2)(- 2) = - 4
(5) (- 5) = - 25
(Positive)(Negative) =
(Negative) (Positive) =
DIFFERENCE SIGN FACTORS

#11. Product of two numbers is POSITIVE

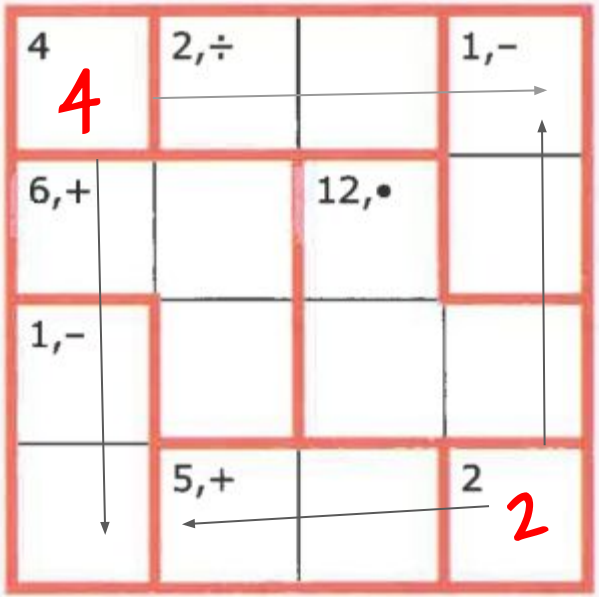
(- 1) (- 1) = 1
(- 2)(- 2) = 4
(5) (5) = -25
(Positive)(Positive) =
(Negative) (Negative) =
SAME SIGN FACTORS

#12. Product of two numbers is ZERO

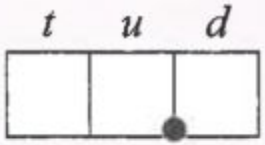
(0) (- 1) = 0
(- 2)(0) = 0
(0) (0) = 0
(Positive)(Positive) =
(Negative) (Negative) =
AT LEAST ONE ZERO FACTOR

Stuff to Make You Think

MysteryGrid **1, 2, 3, 4**



Who Am I?

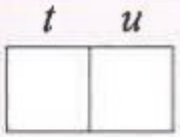


- The sum of my digits is 10.
- $ud = 6$
- The product of my digits is 30.
- $u \geq d$
- $u + d = t$

- Sum is the answer to addition
- Product is the answer to multiplication

Digits are the numbers 0, 1, 2, 3, 4, 5, 6, 7, 8, or 9

Who Am I?



- $u < t$
- Both my digits are odd and square.

ANSWERS Stuff to Make You Think

MysteryGrid **1, 2, 3, 4**

4 **4**	2,÷ **1**	**2**	1,− **3**
6,+ **1**	**2**	12,• **3**	**4**
1,− **2**	**3**	**4**	**1**
3	5,+ **4**	**1**	2 **2**

Who Am I?

- The sum of my digits is 10.
- $ud = 6$
- The product of my digits is 30.
- $u \geq d$
- $u + d = t$

t	u	d
5	3	2

Who Am I?

- $u < t$
- Both my digits are odd and square.

t	u
9	1

Additional Practice

(A) Find the number at the following locations in the table on page 7.

(i) column 4, row 7 (ii) column -4, row -4 (iii) (3, -5) (iv) (-1, 8)

(B) Where would 36 be in the multiplication table?

Column	-6				
Row	-6				

(C) Where would -18 be in the multiplication table?

Column	6				
Row	-3				

(D) Circle the sign of the number at the following locations.

(i) column -3, row -6 + or −

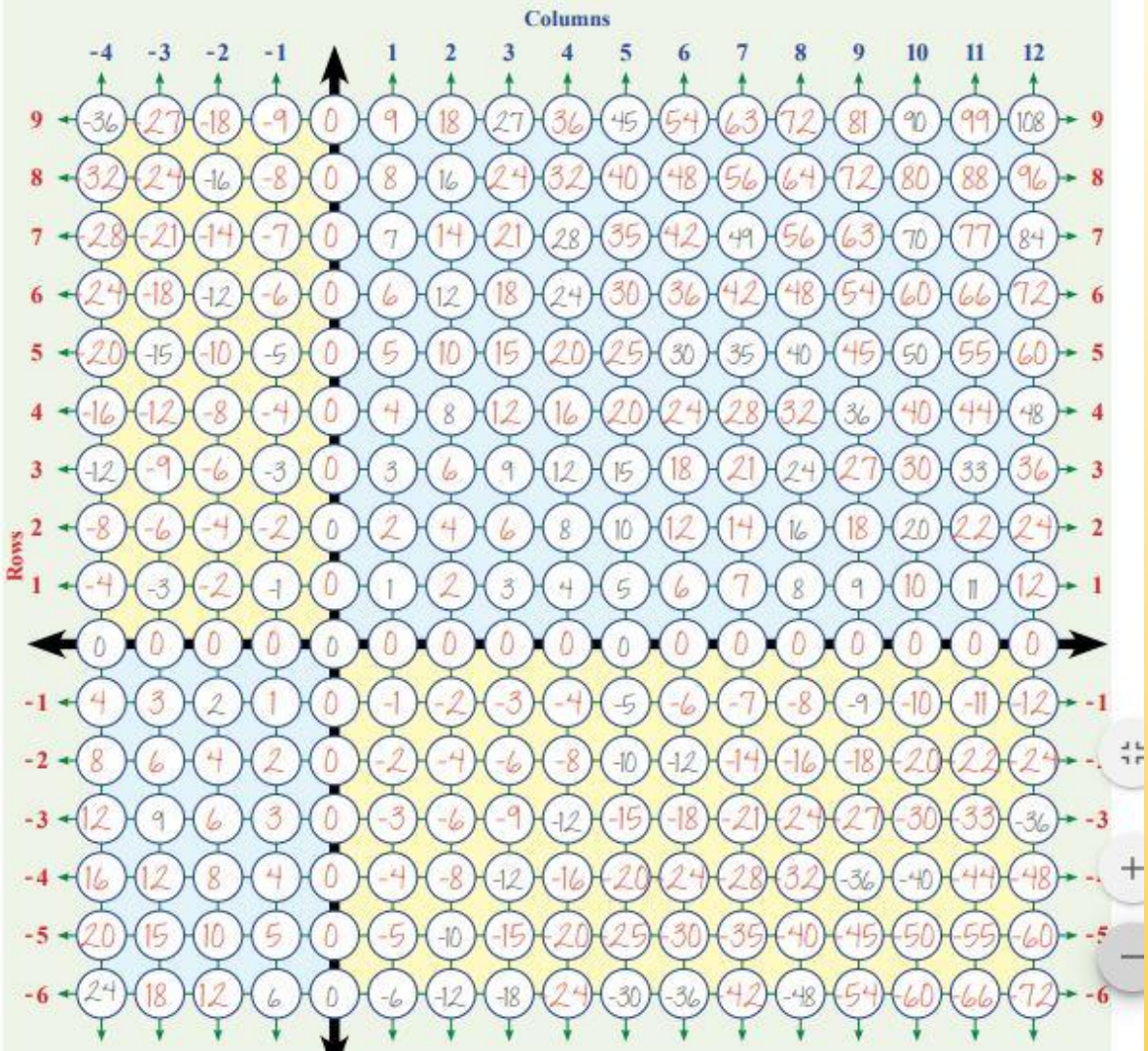
(ii) column 5, row -1 + or −

(iii) (-3, 3) + or −

(iv) (12, 7) + or −

(v) (-10, -8) + or −

See the following slide for the page 7 table.
You will need to refer to it in order to complete the additional practice


Columns
-4 -3 -2 -1 1 2 3 4 5 6 7 8 9 10 11 12
Rows
9 8 7 6 5 4 3 2 1 0 -1 -2 -3 -4 -5 -6
-36 -27 -18 -9 0 9 18 27 36 45 54 63 72 81 90 99 108
-32 -24 -16 -8 0 8 16 24 32 40 48 56 64 72 80 88 96
-28 -21 -14 -7 0 7 14 21 28 35 42 49 56 63 70 77 84
-24 -18 -12 -6 0 6 12 18 24 30 36 42 48 54 60 66 72
-20 -15 -10 -5 0 5 10 15 20 25 30 35 40 45 50 55 60
-16 -12 -8 -4 0 4 8 12 16 20 24 28 32 36 40 44 48
-12 -9 -6 -3 0 3 6 9 12 15 18 21 24 27 30 33 36
-8 -6 -4 -2 0 2 4 6 8 10 12 14 16 18 20 22 24
-4 -3 -2 -1 0 1 2 3 4 5 6 7 8 9 10 11 12
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
4 3 2 1 0 -1 -2 -3 -4 -5 -6 -7 -8 -9 -10 -11 -12
8 6 4 2 0 -2 -4 -6 -8 -10 -12 -14 -16 -18 -20 -22 -24
12 9 6 3 0 -3 -6 -9 -12 -15 -18 -21 -24 -27 -30 -33 -36
16 12 8 4 0 -4 -8 -12 -16 -20 -24 -28 -32 -36 -40 -44 -48
20 15 10 5 0 -5 -10 -15 -20 -25 -30 -35 -40 -45 -50 -55 -60
24 18 12 6 0 -6 -12 -18 -24 -30 -36 -42 -48 -54 -60 -66 -72

Additional Practice Key

⑥ Find the number at the following locations.

ⓐ column 12, row 2 24 ⓑ column -3, row 8 -24 ⓒ (-4, -6) 24 ⓓ (12, -2) -24

⑦ Where would 24 be in the multiplication table?

Column	3	6	-4	12	8
Row	8	4	-6	2	3

(Responses Will vary.)

⑧ Where would -12 be in the multiplication table?

Column	6	-4	2	-3	12
Row	-2	3	-6	4	-1

⑨ Circle the sign of the number at the following locations.

ⓐ column 5, row -4 + or (−) ⓑ column 8, row 4 (+) or − ⓒ (-2, 10) + or (−) ⓓ (-5, -6) (+) or − ⓔ (12, -9) + or (−)

Notice that 7&8 all were multiples of 24 and 12. Other answers could have been -8, -3 or -12 and 1 etc...

Mystery Grids

Lesson: April 30, 2020 (U4L1 part II)
Today you:

Built your working memory & the ability to coordinate multiple constraints.
Sharpened familiarity with properties of numbers & operations
Sharpened arithmetic skills (recognizing multiples, factors, etc.)

For additional practice, click the link: **Solve Me Mystery Grids**