Dear students and family,

We are missing you in our classroom and cannot wait to see you again soon! I have put together a Math packet that targets some of the concepts we would be learning in class. There is a bell work problem indicated for each day of the week. Then a math worksheet for each day of the week.

I have included some notes for the students as they don't have their notebooks. Keep this work in a safe place to bring back to school when we return.

If you need me, have questions or concerns, please feel free to write to me at mlanden@amphi.com. Please leave the best phone number and a good time for me to call you if discussion or instruction are needed.

Again, I will be so happy to have you back in our classroom soon!

Sincerely

Ms. Landen
7th Grade Resource
AMS

ALTERNATE QUESTION: *Which field has the greater area?*

Monday 4/6/20

3 A racquetball court is 20 feet wide and 40 feet long.

A singles tennis court is 7 feet wider and 38 feet longer than a racquetball court.

What are the dimensions of a singles tennis court?

Tuesday 4/7/20

4 ~~Jefferson School's playground is 230 feet by 120 feet.~~

Adams School's playground is 220 feet by 130 feet.

Which playground has the larger area?

5 Two famous U.S. highways are Route 1 and Route 66. The old Route 1 was 2,390 miles long and went through 15 states.

Wed. 4/8/20

Route 66, which used to run from Chicago to Los Angeles, was 58 miles longer than Route 1, and it ran through 8 states.

How long was Route 66?

Thursday 4/9/20

6 Mt. Logan, in Canada's Yukon, is 19,850 feet high.

Mt. McKinley, in Alaska, is 470 feet higher than Mt. Logan.

How high is Mt. McKinley?

MEASUREMENT: SET 17

Finding Cumulative Distances

Friday 4/10/20

1 Hank's family decided to climb the mountain outside of town, which is 7,574 feet high. On Saturday, they climbed 1,900 feet, and on Sunday they climbed 1,700 feet.

On Monday, they climbed 1,400 feet, and on Tuesday they climbed 1,300 feet.

How many feet do they still have to climb to reach the top?

Math

4/6

Inverse Relationships (A)

Fill in the blanks

1. $19 \times 11 = 209$
   $11 \times \_\_\_ = 209$
   $209 \div \_\_\_ = 19$
   $209 \div 19 = \_\_\_$

2. $15 \times 13 = 195$
   $\_\_\_ \times 15 = 195$
   $\_\_\_ \div 13 = 15$
   $195 \div \_\_\_ = 13$

3. $14 \times 19 = 266$
   $19 \times 14 = \_\_\_$
   $266 \div 19 = \_\_\_$
   $266 \div 14 = \_\_\_$

4. $18 \times 25 = 450$
   $25 \times \_\_\_ = 450$
   $450 \div 25 = \_\_\_$
   $450 \div \_\_\_ = 25$

5. $19 \times 17 = 323$
   $17 \times 19 = \_\_\_$
   $323 \div \_\_\_ = 19$
   $323 \div 19 = \_\_\_$

6. $14 \times 15 = 210$
   $15 \times \_\_\_ = 210$
   $\_\_\_ \div 15 = 14$
   $210 \div \_\_\_ = 15$

7. $14 \times 20 = 280$
   $20 \times 14 = \_\_\_$
   $280 \div 20 = \_\_\_$
   $\_\_\_ \div 14 = 20$

8. $21 \times 23 = 483$
   $\_\_\_ \times 21 = 483$
   $483 \div 23 = \_\_\_$
   $\_\_\_ \div 21 = 23$

9. $11 \times 22 = 242$
   $22 \times \_\_\_ = 242$
   $\_\_\_ \div 22 = 11$
   $242 \div 11 = \_\_\_$

10. $17 \times 18 = 306$
    $\_\_\_ \times 17 = 306$
    $\_\_\_ \div 18 = 17$
    $306 \div \_\_\_ = 18$

11. $19 \times 25 = 475$
    $25 \times \_\_\_ = 475$
    $475 \div 25 = \_\_\_$
    $475 \div 19 = \_\_\_$

12. $20 \times 24 = 480$
    $24 \times 20 = \_\_\_$
    $480 \div 24 = \_\_\_$
    $480 \div 20 = \_\_\_$

13. $22 \times 16 = 352$
    $16 \times 22 = \_\_\_$
    $352 \div 16 = \_\_\_$
    $352 \div 22 = \_\_\_$

14. $14 \times 11 = 154$
    $11 \times \_\_\_ = 154$
    $154 \div \_\_\_ = 14$
    $154 \div 14 = \_\_\_$

15. $21 \times 17 = 357$
    $\_\_\_ \times 21 = 357$
    $357 \div \_\_\_ = 21$
    $\_\_\_ \div 21 = 17$

16. $24 \times 24 = \_\_\_$
    $24 \times 24 = \_\_\_$
    $576 \div 24 = \_\_\_$
    $\_\_\_ \div 24 = 24$

17. $25 \times 22 = 550$
    $\_\_\_ \times 25 = 550$
    $\_\_\_ \div 22 = 25$
    $550 \div 25 = \_\_\_$

18. $17 \times 12 = 204$
    $12 \times \_\_\_ = 204$
    $\_\_\_ \div 12 = 17$
    $\_\_\_ \div 17 = 12$

19. $21 \times 11 = 231$
    $\_\_\_ \times 21 = 231$
    $231 \div 11 = \_\_\_$
    $231 \div 21 = \_\_\_$

20. $23 \times 21 = 483$
    $21 \times 23 = \_\_\_$
    $\_\_\_ \div 21 = 23$
    $\_\_\_ \div 23 = 21$

Missing Numbers in Equations (A)

Find the value of each unknown.

1	2	3	4
$n \times 3 = 24$	$s \times 6 = 54$	$t \times 2 = 16$	$p \times 7 = 42$
$4 \times t = 28$	$8 \times w = 32$	$6 \times t = 24$	$a \times 9 = 54$
$2 \times t = 18$	$m \times 5 = 45$	$w \times 3 = 18$	$a \times 4 = 16$
$s \times 3 = 12$	$j \times 3 = 3$	$j \times 3 = 27$	$8 \times p = 24$
$3 \times w = 9$	$5 \times c = 45$	$g \times 7 = 28$	$9 \times b = 63$
$c \times 8 = 72$	$2 \times z = 6$	$y \times 9 = 45$	$x \times 1 = 6$
$6 \times v = 36$	$g \times 5 = 15$	$d \times 3 = 15$	$s \times 1 = 2$
$y \times 3 = 24$	$z \times 5 = 35$	$b \times 3 = 27$	$j \times 1 = 1$
$f \times 7 = 35$	$m \times 7 = 35$	$6 \times b = 36$	$7 \times u = 49$
$7 \times q = 7$	$n \times 6 = 12$	$2 \times g = 4$	$3 \times v = 12$

Unknown Variables in Equations (A)

Name: _____ Date: _____

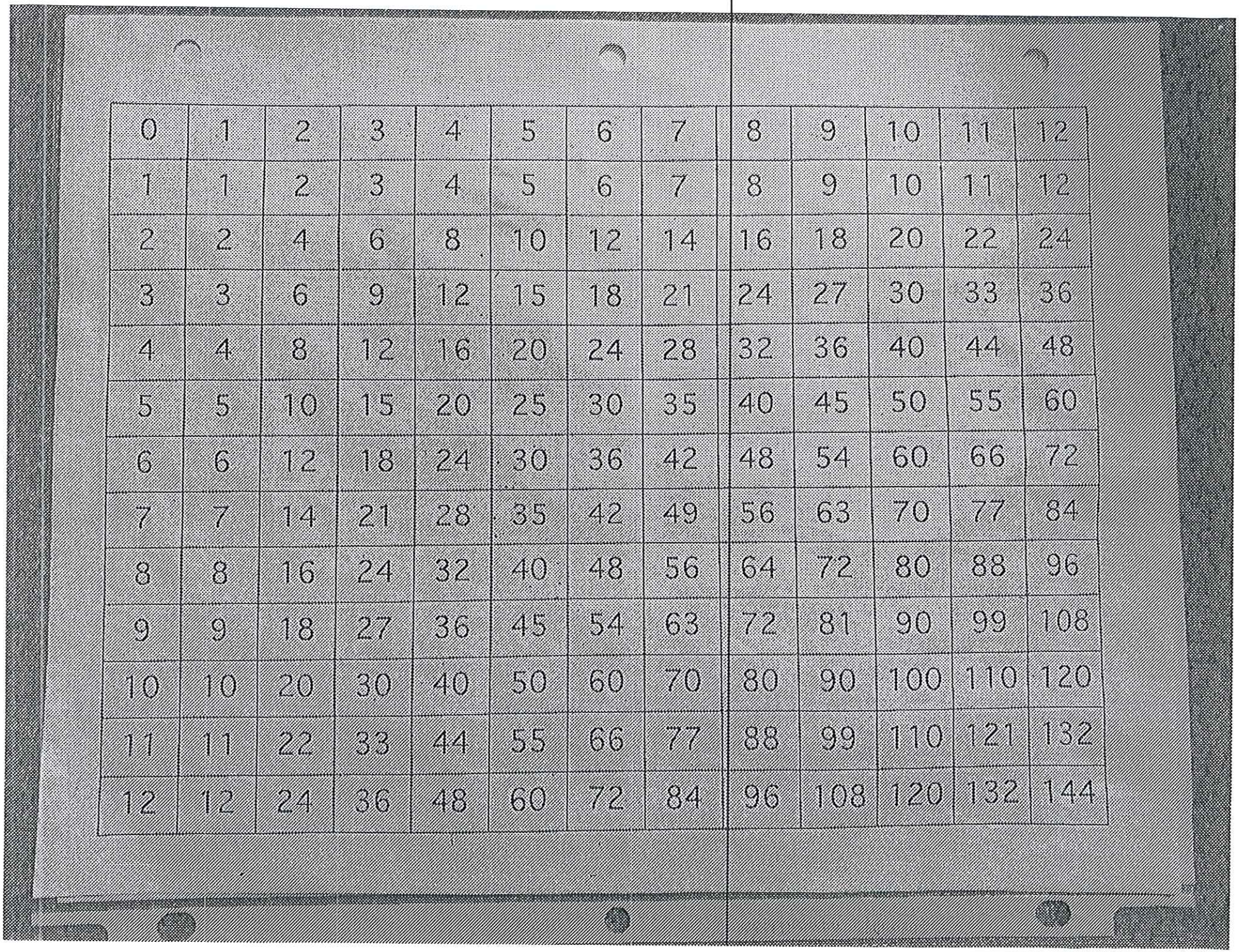
Thurs. 4/9 Row 1

Determine the value of each variable.

Row 2

Fri. 4/10 Row 3

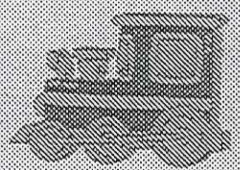
1. $j = 26 \div 2$
2. $36 \div 4 = h$
3. $135 \div 15 = z$
4. $8 = 96 \div f$
5. $11 \div c = 1$
6. $7 = w \div 14$
7. $42 \div n = 7$
8. $324 \div 18 = a$
9. $9 = 90 \div p$
10. $13 = b \div 3$
11. $100 \div 10 = g$
12. $d \div 17 = 6$
13. $2 = y \div 8$
14. $3 = 27 \div t$
15. $2 \div r = 2$
16. $10 \div 10 = x$
17. $m = 20 \div 2$
18. $v = 170 \div 17$
19. $3 = 6 \div k$
20. $6 = s \div 4$



0	1	2	3	4	5	6	7	8	9	10	11	12
1	1	2	3	4	5	6	7	8	9	10	11	12
2	2	4	6	8	10	12	14	16	18	20	22	24
3	3	6	9	12	15	18	21	24	27	30	33	36
4	4	8	12	16	20	24	28	32	36	40	44	48
5	5	10	15	20	25	30	35	40	45	50	55	60
6	6	12	18	24	30	36	42	48	54	60	66	72
7	7	14	21	28	35	42	49	56	63	70	77	84
8	8	16	24	32	40	48	56	64	72	80	88	96
9	9	18	27	36	45	54	63	72	81	90	99	108
10	10	20	30	40	50	60	70	80	90	100	110	120
11	11	22	33	44	55	66	77	88	99	110	121	132
12	12	24	36	48	60	72	84	96	108	120	132	144

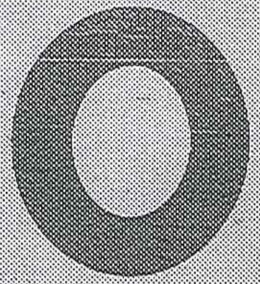
Step

\# 1



Train Tracks

\# 2



Circle the Variable

\# 3 Inverse (opposite) + ⇆ −
Operation ab ( ) · × ⇆ ÷

\# 4 Be Fair

Absolute Value: A numbers distance from Zero on a number line. It is written, | |.

Constant: A number on its own.

Variable: A quantity that may change with in a mathmatical problem

$=$ equal

$<$ greater Than

$\leq$ greater Than or Equal to

$>$ Less Than

$\geq$ Less than or Equal to

Name Key

Addition & Subtraction of Integers

Rules for Adding Integers

1. If the signs are the same, add the numbers and keep the sign.

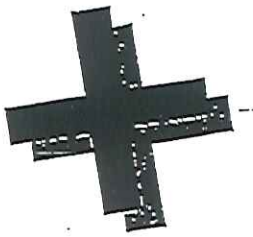
   Examples: $8 + 4 = 12$

   $-8 + -4 = -12$

2. If the signs are different, subtract the absolute values. Use the sign of the number with the greater absolute value for the answer.

   Examples: $-8 + 4 = -4$

   $8 + -4 = 4$



Rules for Subtracting Integers

1. Change the subtraction sign to addition.
2. Change the number after the subtraction sign to its opposite.
3. Then follow the addition rules.

Examples: $12 - -3 = 12 + 3 = 15$

$-12 - 3 = -12 + -3 = -15$

Rules for Integers

Adding: 1. If the signs are the same add the numbers and keep the sign

$^{+}8 + ^{+}4 = {}^{+}12$

$-8 + ^{-}4 = -12$

2. If the signs are different, Subtract the absolute values. Use the sign of the number with the greater absolute value for the answer.

$-8 + 4 = ^{-}4$

$8 + ^{-}4 = 4$

Subtraction: 1. Change the subtraction sign to addition

2. Change the number after the subtraction sign to its opposite

3. Then follow the addition rules

$12 - ^{-}3 = 12 + 3 = 15$

$^{-}12 - 3 = ^{-}12 + ^{-}3 = ^{-}15$

Multiplying and Dividing Integers

The product or quotient of 2 integers with the **SAME** sign is positive.

$3 \cdot 3 = 9 \qquad +3 \cdot +3 = +9$

$8 \div 2 = 4 \qquad -8 \div -2 = +4$

The product or quotient of 2 integers with **Different** signs is negative.

$3 \cdot (-3) = -9 \qquad 8 \div (-2) = -4$

$-3 \times 3 = -9 \qquad -8 \div 2 = -4$

Multiplication & Division of Integers

Rules for Multiplying and Dividing Integers

- If both numbers are positive or both numbers are negative, the answer is positive. (0 is not negative or positive.)

  Examples: $8(4) = 32$ $\quad -8 \div -4 = 2$

- If one number is positive and one number is negative, the answer is negative.

  Examples: $8(-4) = -32$ $\quad -8 \div 4 = -2$

BigIdeasMath.com

Vocabulary and Concept Check

Period

1. **WRITING** How do you subtract one integer from another?
2. **OPEN-ENDED** Write two integers that are opposites.
3. **DIFFERENT WORDS, SAME QUESTION** Which is different? Find "both" answers.

Find the difference of 3 and −2. | What is 3 less than −2?

How much less is −2 than 3? | Subtract −2 from 3.

NAME _____ DATE _____ PERIOD ____

1-3 Variables and Expressions *(Pages 17–21)*

Aside from the operation symbols you already know, algebra uses placeholders, usually letters, called **variables**. The letter x is used very often as a variable in algebra, but variables can be any letter. An expression such as $a \div 2 + 110$ is an **algebraic expression** because it is a combination of variables, numbers, and at least one operation. You can evaluate algebraic expressions by replacing the variables with numbers and then finding the numerical value of the expression.

Substitution Property of Equality	For all numbers a and b, if $a = b$, then a may be replaced by b.
Special Notation	$3d$ means $3 \times d$ $\quad$ $7st$ means $7 \times s \times t$ xy means $x \times y$ $\quad$ $\frac{q}{4}$ means $q \div 4$

Example 1 **Find the value of each expression.**

a. Evaluate $a + 47$ if $a = 12$.

$a + 47 = 12 + 47$ *Replace a with 12.*

$= 59$

b. Evaluate $\frac{7r}{2}$ if $r = 4$.

$\frac{7r}{2} = \frac{7(4)}{2}$ *Replace r with 4.*

$= \frac{28}{2}$ or 14

Practice

shark travels.

Add	Subtract	Multiply	Divide
sum	decreased	each	shared
add	difference	altogether	quotient
plus	have left	product	grouped
altogether	fewer	total	separated
total	how much	times	divide
in all	more	factor	half
increased by	how many	in all	equally
	more	twice	dividend
	minus	multiply	
	take away		
	remain		
	subtract		
	less than		

7th Grade Math
Number Sense Cheat Sheet

Operations on Integers

Integers

Adding

⊕ + ⊕ = ⊕

⊖ + ⊖ = ⊖

⊕ + ⊖ = ⊕

⊕ + ⊖ = ⊖

Greater Abs. Value

Subtracting

⊕ − ⊕ = ⊕ + ⊖

⊕ − ⊖ = ⊕ + ⊕

⊖ − ⊖ = ⊖ + ⊕

⊖ − ⊕ = ⊖ + ⊖

Multiplying & Dividing

⊕ × ÷ ⊖ = ⊖

⊖ × ÷ ⊖ = ⊕

⊖ × ÷ ⊕ = ⊖

⊕ × ÷ ⊕ = ⊕

Fractions

Multiplying
Multiply across!

Example:

$$\frac{a}{b} \cdot \frac{c}{d} = \frac{ac}{bd}$$

If possible reduce!

Dividing
Change to multiplication & take reciprocal of second fraction!

Example:

$$\frac{a}{b} \div \frac{c}{d} = \frac{a}{b} \cdot \frac{d}{c} = \frac{ad}{bc}$$

Reduce!

Adding & Subtracting
Need common denominators!

Example:

$$\frac{a}{b} + \frac{c}{d} = \frac{d}{d} \cdot \frac{a}{b} + \frac{c}{d} \cdot \frac{b}{b} = \frac{ad}{bd} + \frac{bc}{bd}$$

$$= \frac{ad+bc}{bd}$$

Decimals

Adding & Subtracting
Line up the decimals!

Example:

0.005 + 1.3 becomes

$$\begin{array}{r} 0.005 \\ +\ 1.300 \\ \hline 1.305 \end{array}$$

Multiplying
Multiply as normal & look at signs!

Dividing
Divisor needs to be a whole number!

Example:

55 ÷ 5.5 becomes

550 ÷ 55

Operations on Decimals