REVIEW

Name Stew Dent

Math 6

Period ALL

End of Unit 1 Assessment

Number Sense and Fluency

Exponents, PEMDAS, Patterns, Divisibility Rules,

Primes, Composites, Prime Factorization,

Factors, Multiples, LCM, GCF

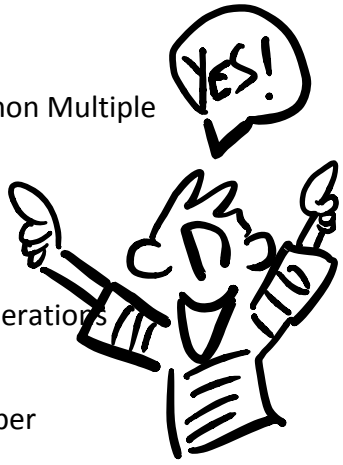
ANSWER KEY!

Test Date: Friday, October, 2019

www.mathmillard.weebly.com

You are responsible for the information taught in class and on homework. Remember that mathematics is a subject that spirals (it builds upon itself), so keeping up with concepts as we go is very important. Good Luck!

Do you know your **vocabulary**? Can you match them here?



i Product

f Least Common Multiple

b Base

d Order of Operations

h Prime Number

c Factor

e Exponent

g Composite Number

a Prime Factorization

a. A set of **prime numbers** whose **product** equals a composite number

b. **A number multiplied by itself** the number of times shown by an exponent

c. A number that **divides another number** (goes into) **without a remainder**

d. The rules telling **what order** to do all the operations in

e. A **raised number** telling how many times another number is being multiplied by itself

f. The **smallest multiple** common to two or more numbers

g. A number greater than 1 with **three or more** whole positive **factors**

h. A whole number greater than 1 with **exactly two** whole positive **factors**: 1 and itself

i. The **answer** to a multiplication sentence

1. Exponents

Know how to use exponents to express numbers

Know how to write expressions containing exponents in standard form.

Complete the table:

Exponential Form	Expanded Form	Standard Form
8^3	$8 \cdot 8 \cdot 8$	512
4^4	$4\times4\times4\times4$	256
☆ BONUS	BONUS	216
9^2	$9 \cdot 9$	81
2^7	$2\times2\times2\times2\times2\times2\times2$	128
7^2	$7 \cdot 7$	49

2. Order of Operations

Know how to use order of operation rules to solve arithmetic problems (PEMDAS)

* make sure you remember: - addition/subtraction left to right
- multiplication/division left to right

Evaluate.

a) $8\div2\times12$

$4 \cdot 12$

$= 48$

b) $32-2\times12+4$

$32-24+4$

$8+4$

$= 12$

BAD EXAMPLE... not on Test

$26-9\times3$

$26-27$

SORRY... negative #

-1

e) $19+24\div8\times2$

$19+3\cdot2$

$19+6$

$= 25$

f) $24\div(5+3)+2\times9$

$24\div8+2\cdot9$

$3+2\cdot9$

$3+18 = 21$

g) $12+(2^3-4)^2+1$

$12+(8-4)^2+1$

$12+(4)^2+1$

$12+16+1$

$28+1 = 29$

3. Numerical Patterns

Know how to identify and continue numerical patterns.

Find the next three numbers in the pattern.

a) 9, 12, 24, 27, 54..... 57 114 117

+3 ·2 +3 ·2 +3 ·2 +3

b) 18, 19, 21, 24, 28, 33..... 39 46 54

+1 +2 +3 +4 +5 +6 +7 +8

4. Divisibility

Know the rules of divisibility and how to apply them.

a) Write the divisibility rule for each number. ***we will NOT be testing on divisibility by 4 or 8***

2 numbers ending in even number (ends in 2, 4, 6, 8, 0)

3 add the digits: sum ÷ 3 with no remainder

5 numbers ending in 5, 0

6 if 2 and 3 go in, 6 goes in.

9 add the digits: sum ÷ 9 with no remainder

10 numbers ending in 0.

b) Put a check in each column to show divisibility; if the number is prime, leave the row blank.

or put an X.

	2	3	5	6	9	10	
29 9+2=11	X	X	X	X	X	X	Prime
324 3+2+4=9	✓	✓	X	✓	✓	X	

5. Prime and Composite Numbers

Use divisibility Rules and other means to tell if a number is prime or composite;

List the first 12 prime numbers ②③⑤⑦ ~~9~~ ⑪ ⑬ ~~15~~ ⑰ ⑲ ~~21~~ ~~25~~ ~~27~~....

2, 3, 5, 7, 11, 13, 17, 19, 29, 31, 37, 41...

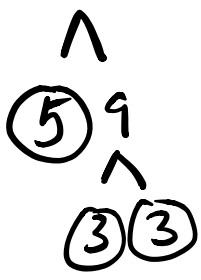
6. Prime Factorization

Use factor trees to find the prime factorization of a composite number.

Use Prime Factorization to find LCM and GCF of two or more numbers

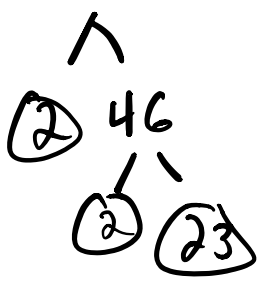
Find the prime factorization of the following numbers. Create factor trees. Write your answer in **exponential notation** if possible.

a) 45



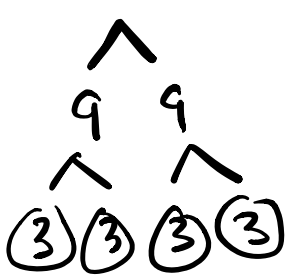
$3 \cdot 3 \cdot 5$ or $3^2 \cdot 5$

b) 92



$2 \cdot 2 \cdot 23$ or $2^2 \cdot 23$

c) 81



$3 \cdot 3 \cdot 3 \cdot 3$ or 3^4

LCM is the Least Common Multiple of two or more numbers. It is the smallest number that your target numbers GO INTO.

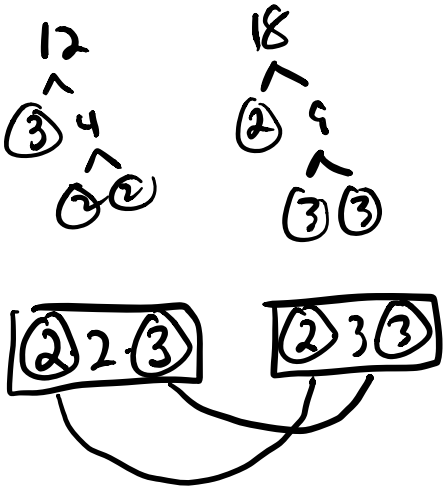
GCF is the Greatest Common Factor of two or more numbers. It is the largest number that GOES INTO your target numbers.

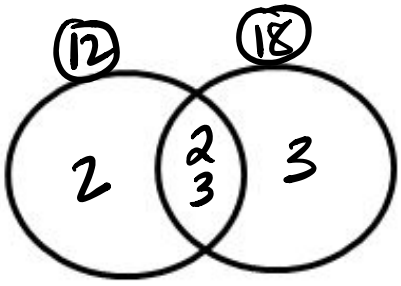
Find the LCM and GCF of each pair of numbers. To solve, you must use prime factorization with venn diagrams.

a) 12 and 18

LCM = 36

GCF = 6





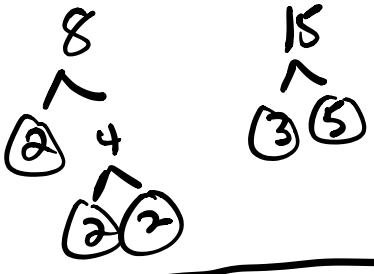
LCM = 2·2·3·3
= 36

GCF = 2·3 = 6

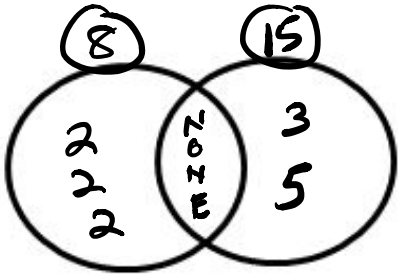
b) 8 and 15

LCM = 120

GCF = 1
Relatively Prime



RELATIVELY PRIME

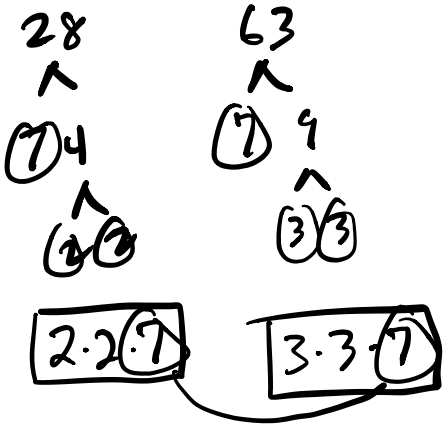


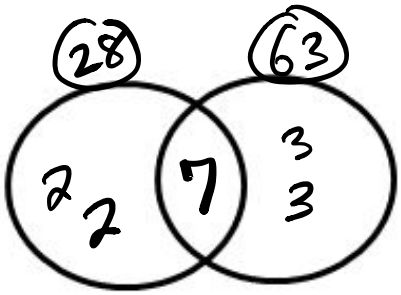
LCM = 2·2·2·3·5
OR
8·15 = 120

c) 28 and 63

LCM = 252

GCF = 7





LCM = 2·2·3·3·7
= 4·9·7
= 4·63
= 252

GCF = 7

7. Word Problems/Application

Riddle Me This:

a.) I am a five digit number divisible by 2 and 5. My hundreds and thousands digits are the same. My ten thousands digit is twice the value of my tens digit. The sum of my digits is 6. Who am I?

- needs to end in 0

40,020

4 0 0 2 0
2x SAME x
ALL Add up to 6.

b) Jamie claims that 25,947 is a prime number. Use your divisibility rules to prove that they are incorrect.

Find the sum of the digits.

2+5+9+4+7=27

27 ÷ 3 = 9
27 ÷ 9 = 3

* Divisible by BOTH 3 and 9

c) At the carnival you write a number on a card. You receive a point for each of the following numbers that your number is divisible by: 2, 3, 5, 6, 9, and 10.

Sarah wrote 23,950 ___3___ points ✓2 ✗ ✓5 ✗ ✗ ✓10 — 3 points
Sum: 19

Kevin wrote 124,122 ___3___ points ✓2 ✓3 ✗ ✓6 ✗ ✗ — 3 points
Sum: 12

Anna wrote 62,424 ___4___ points ✓2 ✓3 5 ✓6 ✓9 ✗ — 4 points
Sum: 18

Who won? Anna won with 4 points.

Please feel free to come to Extra Help for extra practice and help in any of these topics!

Extra Help this week: **Wednesday Morning before school (7-7:30 am)**
Thursday After School (2:10 – 2:45 pm).

Whole Class Review Thursday during class.