Name: KEY Hour: _____ Date: _____

NOTES: GCF and LCM Review

Goals: #1 – I can find the greatest common factor (GCF) of a pair of numbers.

#2 – I can find the least common multiple (LCM) of a pair of numbers.

Homework: GCF and LCM Review Worksheet

Warm Up:

1. List ten <u>multiples</u> of 3.

   3, 6, 9, 12, 15, 18, 21, 24, 27, 30

2. List all the <u>common factors</u> of 12 and 30.

   12: 1, 2, 3, 4, 6, 12

   30: 1, 2, 3, 5, 6, 10, 15, 30

   1, 2, 3, 6

Review:

FACTORS AND MULTIPLES ARE __NOT__ THE SAME THING!

Number	Factors	Multiples
12	1, 2, 3, 4, 6, 12	12, 24, 36, 48, ...

Exploration #1: Work with a partner.

1. Ms. Hentrich wants to create snack bags for her awesome math students. She has 40 granola bars and 32 packs of fruit snacks. If the snack bags should be identical without any food left over, what is the greatest number of snack bags Ms. Hentrich can make? GB: 1, 2, 4, 5, 8, 10, 20, 40

   FS: 1, 2, 4, 8, 16, 32

   8 bags

2. Mrs. Sondrol goes hiking every 8 days and swimming every 6 days. She did both exercises today. How many days from now will Mrs. Sondrol go hiking and swimming on the same day?

   H: 8, 16, 24, 32, 40, 48, ...

   S: 6, 12, 18, 24, 30, 36, ...

   Day 24

Name:_____ Hour: _____ Date: _____

Notes:

The <u>greatest common</u> factor (GCF) of two numbers is the *largest* number that is a *factor* of both numbers.

Example: 12 $\div$ 30

12: 1, 2, 3, 4, ⑥, 12
30: 1, 2, 3, 5, ⑥ 10, 15, 30
↑ GCF

The <u>least common</u> multiple (LCM) of two numbers is the *smallest* number that is a *multiple* of both numbers.

Example: 4 $\div$ 6

4: 4, 8, ⑫, 16, 20, · · ·
6: 6, ⑫, 18, 24, 30, · · ·
↑ LCM

Example #1: Find the greatest common factor (GCF) of the pair of numbers.

a. 16, 24

16: 1, 2, 4, ⑧, 16
24: 1, 2, 3, 4, 6, ⑧ 12, 24

GCF: 8

b. 35, 50

35: 1, ⑤, 7, 35
50: 1, 2, ⑤ 10, 25, 50

GCF: 5

Example #2: Find the least common multiple (LCM) of the pair of numbers.

a. 6, 14

6: 6, 12, 18, 24, 30, 36, ㊷ · · ·
14: 14, 28, ㊷ 56, · · ·

LCM: 42
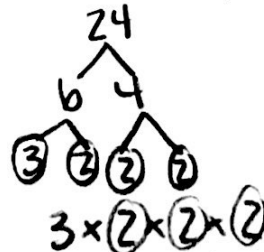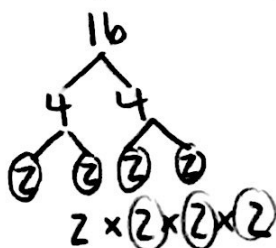
b. 20, 25

20: 20, 40, 60, 80, ⑩⓪ · · ·
25: 25, 50, 75, ⑩⓪ 125, · · ·

LCM: 100

Notes:

We can also use <u>prime factorizations</u> to find GCFs and LCMs of pairs of numbers.

Example: Find the greatest common factor (GCF) of 16, 24

16
4   4
② ② ② ②
2 × ② × ② × ②

24
6   4
③ ② ② ②
3 × ② × ② × ②

2 × 2 × 2 = 8

GCF: 8

Example: Find the least common multiple (LCM) of 16, 24

16
2 × 2 × 2 × 2

24
3 × 2 × 2 × 2

2 × 2 × 2 × 2 × 3
16 × 3 = 48

LCM: 48