Name_____ Date_____ Period_____

LESSON 6-7 · SESSION 1 · PRACTICE · FORM B

Factors and Greatest Common Factor

Learning target – I can list the factors of two numbers and find their greatest common factor. · 6.NS.B.4

REMEMBER

- A **factor** divides a number with no remainder. A **common factor** divides both numbers.
- The **GCF** is the greatest factor two numbers share. Check it by dividing it into both.
- **Prime factorization**: split until every factor is prime: 63 = 7 × 3 × 3.

WORKED EXAMPLE

Find the GCF of 20 and 30.

Step 1 Factors of 20: 1, 2, 4, 5, 10, 20.

Step 2 Factors of 30: 1, 2, 3, 5, 6, 10, 15, 30.

Step 3 Shared factors: 1, 2, 5, 10. The greatest is 10.

Answer **GCF = 10**

WORDS **factor** *(factor)* · **greatest common factor** *(máximo común divisor)* · **prime factorization** *(factorización prima)*

PRACTICE

show your work · label units

1. Find the GCF of each pair.

a. 24 and 42 _____

b. 33 and 55 _____

c. 20 and 28 _____

d. 14 and 35 _____

2. **Factor Pairs.** Work with the number 63.

Hint *Start with 1 × 63, then try 2, 3, 4, 5, …*

a. List every factor pair of 63. _____

b. List all factors of 63 from least to greatest. _____

3. **Prime Factor Tree.** Build a factor tree for 70 in the box.

Hint *Split 70 into 7 × 10, then split 10.*

a. Prime factorization of 70: _____

b. Is 5 a factor of 70? _____

Show your work.

4. **Pet Packs.** A shelter worker has 20 chew toys and 35 treats. Every pack must hold the same number of each, with nothing left over.

a. Greatest number of packs: _____

b. In one pack: chew toys ___ treats ___

Show your work.

5. **Ivan's Answer.** Ivan says the GCF of 18 and 24 is 3. Is he right? Give the correct GCF.

Hint *Is there a shared factor greater than 3?*

Show your work.

GCF_____

6. **Mei's Answer.** Mei says the GCF of 22 and 55 is 2. Is she right? Give the correct GCF.

Hint *List the factors of 55.*

Show your work.

GCF_____

7. **Garden Rows.** A gardener has 36 carrot seeds and 45 bean seeds. She plants identical rows with none left over.

a. Greatest number of rows: _____

b. In one row: carrot seeds ___ bean seeds ___

Show your work.

8. **Party Bags.** A host has 40 stickers and 56 erasers for identical bags with none left over.

a. Find the greatest number of bags. _____

b. How many of each item go in one bag? _____

c. Explain why 10 bags would not work. _____

Show your work.

FIND THE ERROR

explain the mistake, then fix it

9. **Devon's Work.** Devon wrote: "18 ÷ 9 = 2, so the GCF of 18 and 42 is 9." Explain his mistake. Then find the correct GCF.

TEST PRACTICE

choose the best answer

10. The GCF of 16 and 20 is –

A 2 **B** 8 **C** 80 **D** 4

11. Which number is a common factor of 12 and 20?

A 3 **B** 4 **C** 6 **D** 10

SELF-CHECK CODE *find your answer · copy its letter into that problem's box · spell a math word*

2 × 5 × 7 D	8 E	9 D	3 Q	5 I	6 V	11 I	4 X	2 Z

#3a	#4a	#5	#6	#7a	#8a

CHECK YOURSELF	□ I can do this on my own	□ I need a little help	□ I have a question about #___