LESSON MAKER PRO

Factor Match-Up

Find greatest common factors and least common multiples.

GRADE 6 · 6.NS.B

CCSS.Math.Content.6.NS.B "Compute fluently with multi-digit numbers and find common factors and multiples."

NAME _____ DATE _____

SHARED NUMBERS

A factor divides a number evenly, and a multiple is found by multiplying a number by whole numbers. To find a GCF, list shared factors and choose the greatest one. To find an LCM, list multiples until you find the first one shared by both numbers.

WORKED EXAMPLE

Find the GCF and LCM of 18 and 30.

1. Factors of 18: 1, 2, 3, 6, 9, 18.
2. Factors of 30: 1, 2, 3, 5, 6, 10, 15, 30.
3. The common factors are 1, 2, 3, and 6, so the GCF is 6.
4. Multiples of 18 include 18, 36, 54, 72, 90, and multiples of 30 include 30, 60, 90, so the LCM is 90.

Answer: GCF = 6; LCM = 90

PRACTICE 6 problems

1 Find the GCF of 24 and 40.

ANSWER _____

2 Find the LCM of 9 and 14.

ANSWER _____

3 List all common factors of 16 and 28.

ANSWER _____

4 Find the LCM of 15 and 20.

ANSWER _____

5 Find the GCF of 42 and 56.

ANSWER _____

6 Is 72 a common multiple of 8 and 12? Write yes or no.

ANSWER _____

APPLY IT Show your work

1 A student council has 45 game badges and 75 bookmark prizes. They want to make the greatest possible number of identical prize bags with no prizes left over. How many prize bags can they make?

WORK SPACE

ANSWER _____

2 Two favorite livestreams begin a new segment at the same time. One begins a new segment every 14 minutes, and the other begins a new segment every 21 minutes. How many minutes will pass before both begin a new segment together again?

WORK SPACE

ANSWER _____

CHALLENGE One step up

Two numbers have a GCF of 9 and an LCM of 315. One number is 45. Find the other number. Explain how you know.

WORK SPACE AND ANSWER

ANSWER KEY

Factor Match-Up

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PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Find the GCF of 24 and 40.	**8**
2	Find the LCM of 9 and 14.	**126**
3	List all common factors of 16 and 28.	**1, 2, 4**
4	Find the LCM of 15 and 20.	**60**
5	Find the GCF of 42 and 56.	**14**
6	Is 72 a common multiple of 8 and 12? Write yes or no.	**Yes**

PART 2 · APPLY IT

1. **15 prize bags** Find the GCF of 45 and 75. The GCF is 15, so they can make 15 identical prize bags.
2. **42 minutes** Find the LCM of 14 and 21. The first common multiple is 42, so the segments begin together again after 42 minutes.

CHALLENGE

63. The product of the two numbers equals the product of their GCF and LCM: 45 x 63 = 9 x 315 = 2,835.

Accept factor and multiple lists in any order. For the challenge, accept an explanation that verifies 9 is the GCF of 45 and 63 and 315 is their LCM.