LESSON MAKER PRO

Factor and Multiple Mission

Use GCF and LCM to solve number puzzles and real situations.

GRADE 6 · MA.6.NSO.3.1

MA.6.NSO.3.1 "Given a mathematical or real-world context, find the greatest common factor and least common multiple of two whole numbers."

NAME _____ DATE _____

FIND WHAT THEY SHARE

The greatest common factor, or GCF, is the largest factor that two numbers share. The least common multiple, or LCM, is the smallest multiple that two numbers share. List factors to find a GCF, and list multiples or use prime factors to find an LCM.

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 greatest shared factor is 6.
4. Multiples include 18, 36, 54, 72, 90 and 30, 60, 90. The first shared multiple is 90.

Answer: GCF = 6; LCM = 90

PRACTICE 6 problems

1 Find the GCF and LCM of 12 and 20.

ANSWER _____

2 Find the GCF and LCM of 14 and 21.

ANSWER _____

3 Find the GCF and LCM of 16 and 24.

ANSWER _____

4 Find the GCF and LCM of 9 and 15.

ANSWER _____

5 Find the GCF and LCM of 25 and 35.

ANSWER _____

6 Find the GCF and LCM of 27 and 36.

ANSWER _____

APPLY IT Show your work

1 A gaming club posts a new challenge every 8 days and a new tournament every 12 days. Both happen today. In how many days will both happen on the same day again?

WORK SPACE

ANSWER _____

2 The art club has 28 green beads and 42 yellow beads. They want to make the greatest possible number of identical bracelet kits, using all the beads. How many kits can they make, and how many beads of each color go in each kit?

WORK SPACE

ANSWER _____

CHALLENGE One step up

Find the GCF and LCM of 48 and 84. Show a factor list or prime factorization that proves both answers.

WORK SPACE AND ANSWER

ANSWER KEY

Factor and Multiple Mission

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PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Find the GCF and LCM of 12 and 20.	**GCF = 4; LCM = 60**
2	Find the GCF and LCM of 14 and 21.	**GCF = 7; LCM = 42**
3	Find the GCF and LCM of 16 and 24.	**GCF = 8; LCM = 48**
4	Find the GCF and LCM of 9 and 15.	**GCF = 3; LCM = 45**
5	Find the GCF and LCM of 25 and 35.	**GCF = 5; LCM = 175**
6	Find the GCF and LCM of 27 and 36.	**GCF = 9; LCM = 108**

PART 2 · APPLY IT

1. **24 days** Find the LCM of 8 and 12. The least common multiple is 24, so both events happen again in 24 days.
2. **14 kits; each kit has 2 green beads and 3 yellow beads.** Find the GCF of 28 and 42, which is 14. Divide each bead total by 14 to find 2 green beads and 3 yellow beads per kit.

CHALLENGE

GCF = 12; LCM = 336

Accept correct answers found by factor lists, multiple lists, or prime factorization. For the word problems, accept equivalent unit wording as long as the number and interpretation are correct.