LESSON MAKER PRO

Factor Match Mission

Use GCF and LCM to solve number and real-world problems.

GRADE 6 · 6.PAR.6.2

6.PAR.6.2 "Determine greatest common factors and least common multiples using a variety of strategies to make sense of applicable problems."

NAME _____ DATE _____

CHOOSE GCF OR LCM

Use the GCF when you need the greatest number of equal groups with no leftovers. Use the LCM when you need to know when repeating events will happen together again. Factor lists and prime factorization can help you find both.

WORKED EXAMPLE

Find the GCF and LCM of 18 and 30.

1. 18 = 2 x 3 x 3 and 30 = 2 x 3 x 5.
2. The shared prime factors are 2 and 3, so the GCF is 2 x 3 = 6.
3. For the LCM, use 2, 3, 3, and 5.
4. 2 x 3 x 3 x 5 = 90.

Answer: GCF = 6; LCM = 90

PRACTICE 6 problems

1 Find the GCF of 24 and 36.

ANSWER _____

2 Find the GCF of 42 and 56.

ANSWER _____

3 Find the LCM of 8 and 12.

ANSWER _____

4 Find the GCF of 45 and 60.

ANSWER _____

5 Find the LCM of 9 and 15.

ANSWER _____

6 Find the LCM of 14 and 20.

ANSWER _____

APPLY IT Show your work

1 An esports club posts a new game challenge every 7 days. The art club posts a new design challenge every 9 days. Both clubs post challenges today. How many days will pass before they post challenges on the same day again?

WORK SPACE

ANSWER _____

2 A student council has 54 keychains and 81 stickers for a fundraiser. They want to make the greatest possible number of identical prize packs with no items left over. How many prize packs can they make, and what will be in each pack?

WORK SPACE

ANSWER _____

CHALLENGE One step up

Three video channels release new clips on repeating schedules. One releases every 4 days, one every 6 days, and one every 10 days. All three release clips today. After how many days will all three release clips on the same day again? Explain how you know.

WORK SPACE AND ANSWER

ANSWER KEY

Factor Match Mission

GRADE 6 · 6.PAR.6.2

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Find the GCF of 24 and 36.	**12**
2	Find the GCF of 42 and 56.	**14**
3	Find the LCM of 8 and 12.	**24**
4	Find the GCF of 45 and 60.	**15**
5	Find the LCM of 9 and 15.	**45**
6	Find the LCM of 14 and 20.	**140**

PART 2 · APPLY IT

1. **63 days** Find the LCM of 7 and 9. The least common multiple is 63, so both clubs will post together again in 63 days.
2. **27 prize packs, with 2 keychains and 3 stickers in each pack** Find the GCF of 54 and 81, which is 27. Divide each amount by 27 to get 2 keychains and 3 stickers per pack.

CHALLENGE

60 days. The LCM of 4, 6, and 10 is 60, so 60 is the first number of days that is a multiple of all three schedules.

Accept factor lists, multiples lists, or prime factorization as valid strategies. For the challenge, accept any correct explanation showing that 60 is divisible by 4, 6, and 10 and that no smaller common multiple works.