

Grade 6 · Greatest Common Factor and Least Common Multiple · Worksheet

Common Core 6.NS.B.4 · mathovore.fr

Name: _____ Date: ____/____/____ Score: _____

This worksheet has 20 problems on factors, prime factorization, greatest common factor, and least common multiple, aligned to Common Core 6.NS.B.4. The first fourteen problems build the skills, and two of them use the distributive property to factor a sum.

The last six problems are word problems about fruit baskets, boards, bus schedules, hot dogs and buns, sticker sets, and joggers. Decide whether each one needs the GCF or the LCM.

Grade 6 Common Core: 6.NS.B.4

Problem 1: List the factors

List all the factors of 36.

Problem 2: Factors of 30

List all the factors of 30.

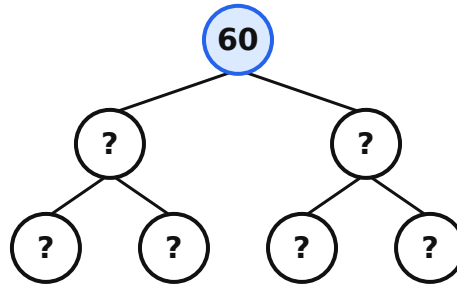
Problem 3: Prime or Composite

Decide whether each number is prime or composite. For each composite number, write two factors other than 1 and the number itself.

- a. 17
- b. 21
- c. 39
- d. 53
- e. 91

Problem 4: Prime factorization

Write the prime factorization of 60.



Finish the factor tree of 60.

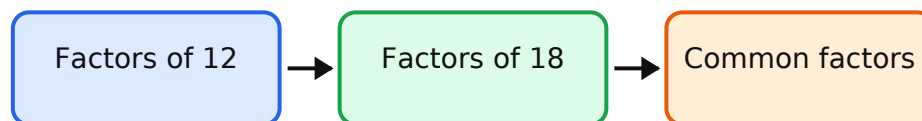
Problem 5: More Prime Factorizations

Write the prime factorization of each number. Use exponents for repeated factors.

- a. 45
- b. 100
- c. 126
- d. 168

Problem 6: GCF of two small numbers

Find the greatest common factor of 12 and 18.



List, compare, choose the greatest.

Problem 7: GCF of Four Pairs

Find the greatest common factor of each pair.

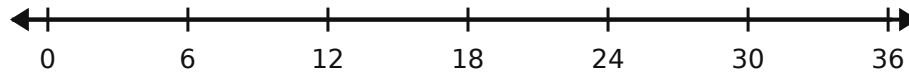
- a. 16 and 40
- b. 27 and 45
- c. 54 and 90
- d. 35 and 36

Problem 8: GCF of larger numbers

Find the greatest common factor of 48 and 72.

Problem 9: Multiples and Common Multiples

List the first six multiples of 4 and the first six multiples of 6. Then name the common multiples in your lists and the least common multiple of 4 and 6.



Use the number line to mark multiples.

Problem 10: LCM of 6 and 8

Find the least common multiple of 6 and 8.



Multiples of 6 up to 48.

Problem 11: LCM of Four Pairs

Find the least common multiple of each pair.

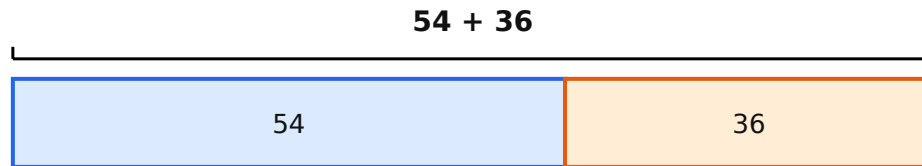
- a. 4 and 10
- b. 5 and 7
- c. 10 and 12
- d. 3 and 11

Problem 12: LCM of 9 and 12

Find the least common multiple of 9 and 12.

Problem 13: Factor a sum

Use the greatest common factor to rewrite $54+36$ as a product of two factors. Show that both expressions have the same value.



Find the GCF of the two parts.

Problem 14: Factor Four Sums

Use the greatest common factor and the distributive property to write each sum as a product of two factors.

- a. $24+56$
- b. $45+75$
- c. $84+36$
- d. $100+35$

Problem 15: Fruit baskets

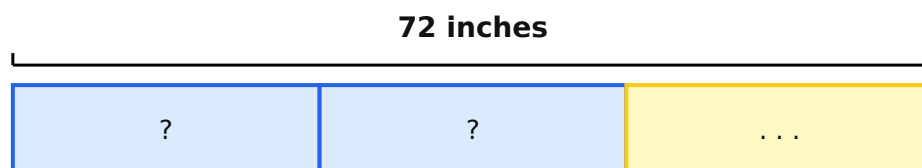
Mei has 36 apples and 60 oranges. She wants to make identical fruit baskets with no fruit left over. Find the greatest number of baskets she can make and the number of apples and oranges in each basket.



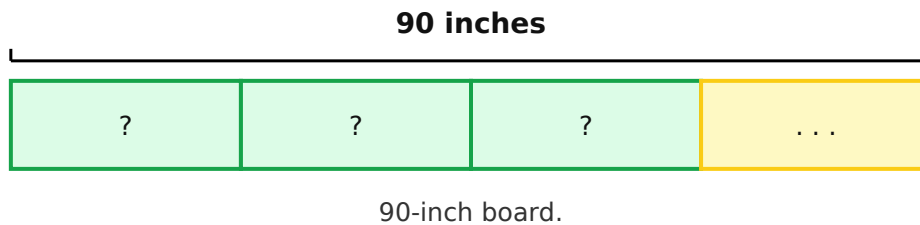
All the fruit.

Problem 16: Cutting Boards

Liam has a 72-inch board and a 90-inch board. He cuts both into pieces of the same length with no wood left over. Find the greatest possible length of each piece and the number of pieces cut from each board.

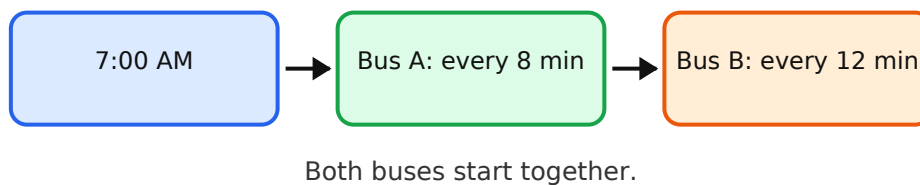


72-inch board.



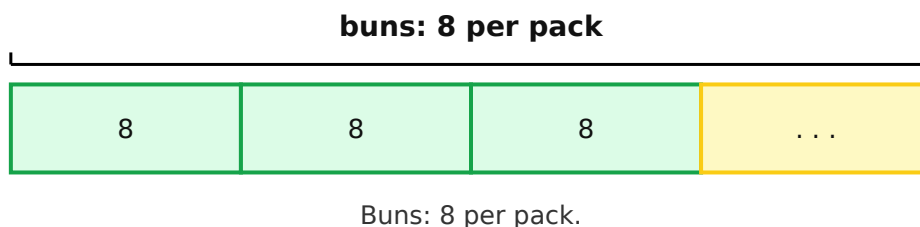
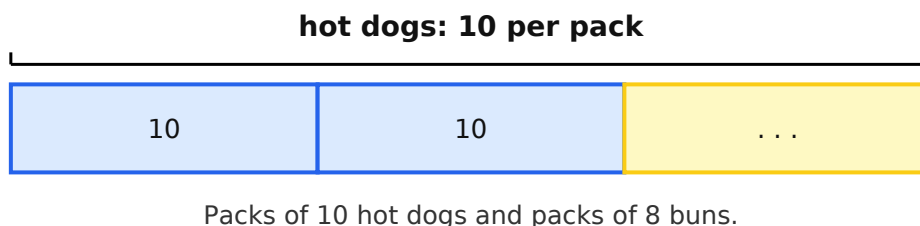
Problem 17: Bus schedules

Two city buses leave the station together at 7:00 AM. One bus leaves every 8 minutes and the other leaves every 12 minutes. Find the next time both buses leave together.



Problem 18: Hot Dogs and Buns

At a cookout, hot dogs come in packs of 10 and buns come in packs of 8. Ethan wants exactly the same number of hot dogs and buns. Find the least number of hot dogs he can buy, and the number of packs of each.



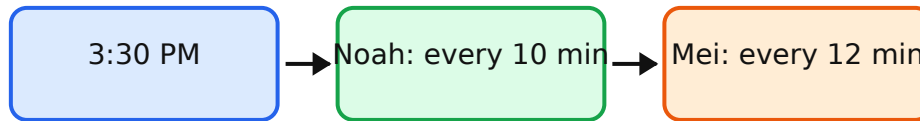
Problem 19: Sticker sets

Priya has 56 star stickers and 84 heart stickers. She makes identical sets using every sticker. Find the greatest number of sets, the number of each sticker in one set, and write 56×84 as a product using the greatest common factor.

Problem 20: Joggers on a Track

Noah and Mei start jogging at the starting line of a track at 3:30 PM. Noah finishes a lap every 10 minutes and Mei finishes a lap every 12 minutes.

- Find the next time both are at the starting line together.
- Find the number of laps each has jogged by then.



Both start at the line at 3:30 PM.