

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

Common Core 6.NS.B.4 · mathovore.fr

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

This 45-minute test covers factors, primes, GCF, and LCM from Common Core 6.NS.B.4. It has 9 questions worth 20 points in total. Show your work for every question, and write each prime factorization with exponents where factors repeat.

Test information

- **Grade:** Grade 6
- **Chapter:** Greatest Common Factor and Least Common Multiple
- **Common Core:** 6.NS.B.4
- **Time:** 45 minutes
- **Total:** 20 points (Question 1: 2 pts; Question 2: 2 pts; Question 3: 2 pts; Question 4: 2 pts; Question 5: 2 pts; Question 6: 3 pts; Question 7: 3 pts; Question 8: 2 pts; Question 9: 2 pts)

Question 1: List factors (2 points)

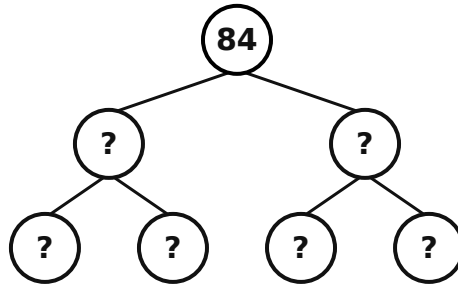
List all the factors of each number.

- 28 (1 point)
- 45 (1 point)

Question 2: Prime factorizations (2 points)

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

- 84 (1 point)
- 90 (1 point)



Space to work on 84.

Question 3: Greatest common factors (2 points)

Find the greatest common factor of each pair.

- a. 30 and 45 (1 point)
- b. 64 and 96 (1 point)

Question 4: Least common multiples (2 points)

Find the least common multiple of each pair.

- a. 8 and 10 (1 point)
- b. 9 and 6 (1 point)

Question 5: Rewrite sums as products (2 points)

Use the greatest common factor and the distributive property to rewrite each sum as a product.

- a. $40+24$ (1 point)
- b. $63+99$ (1 point)

Question 6: Snack bags (3 points)

Aisha has 36 granola bars and 54 juice boxes. She puts them into identical snack bags with nothing left over.

- a. Find the greatest number of bags she can fill. (1 point)
- b. Find the number of granola bars and the number of juice boxes in each bag. (1 point)
- c. Write $36+54$ as a product using the greatest common factor. (1 point)

90 items

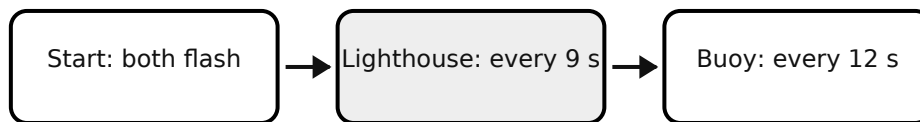
36 granola bars	54 juice boxes
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Items to share equally.

Question 7: Flashing lights (3 points)

A lighthouse flashes every 9 seconds and a buoy light flashes every 12 seconds. They flash together at the start.

- Find the number of seconds until they next flash together. (2 points)
- Find the number of flashes the buoy makes from the start until then, counting the flash at the end but not the one at the start. (1 point)



Two flashing cycles.

Question 8: Find the error (2 points)

Noah says the greatest common factor of 18 and 27 is 54. Explain his mistake and find the correct greatest common factor.

Question 9: Prime or not (2 points)

Mei says that 51 is a prime number. Determine whether she is correct and justify the answer.