

Factors, Multiples and Common Ones: GCF and LCM

Grade 6 math · Test · Standards: 6.NS.B.4

Name: _____ Date: _____ Class: _____

This 45-minute test has 9 questions worth 20 points in all. Show every step of your reasoning, and write each answer in the form the question asks for. Calculators are not allowed.

Standards: 6.NS.B.4 · **Level:** Grade 6

Time: 45 minutes · 9 questions · Total: 20 points · Calculator: as allowed by your teacher

Question 1 Factors and multiples (2 points)

- a. List all the factors of 36. (1 point)
- b. List the first five multiples of 7. (1 point)

Question 2 Prime factorization (2 points)

Write the prime factorization of each number. Use exponents where helpful.

- a. 150 (1 point)
- b. 168 (1 point)

Question 3 Finding GCFs (2 points)

Find the greatest common factor.

- a. 54 and 90 (1 point)
- b. 63 and 98 (1 point)

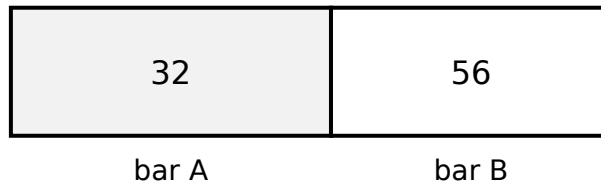
Question 4 Finding LCMs (2 points)

Find the least common multiple.

- a. 11 and 4 (1 point)
- b. 6 and 10 (1 point)

Question 5 Factoring a sum (2 points)

The bars show two quantities, 32 and 56. Use their GCF to write $32 + 56$ as a product.

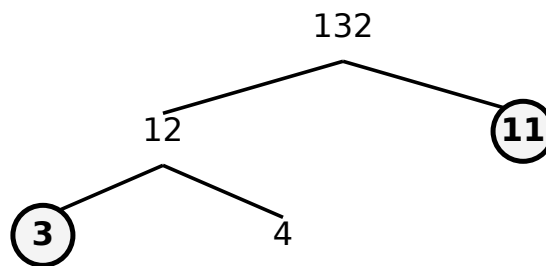


Two quantities: 32 and 56.

- a. Find the GCF of 32 and 56. (1 point)
- b. Write $32 + 56$ as $\text{GCF} \times (\text{sum})$. (1 point)

Question 6 Factor tree for 132 (2 points)

A student started this factor tree. Complete it, then write 132 as a product of primes.



Factor tree for 132, not finished.

Question 7 Packing fruit baskets (2 points)

A stand has 64 oranges and 96 apples. All the fruit goes into identical baskets with nothing left over.

- a. What is the greatest number of baskets? (1 point)
- b. How many oranges and apples are in each basket? (1 point)

Question 8 Runners on a track (3 points)

Two runners start together at the same spot on a loop. Jin completes a lap every 8 minutes and Carla every 10 minutes.

- a. After how many minutes are they next together at the start? Show the work. (1 point)
- b. How many laps has each runner finished by then? (2 points)

Question 9 Two mystery numbers (3 points)

Two whole numbers have a GCF of 9 and an LCM of 54. One of them is 18. Find the other number and show that it works.