

Grade 6 - Greatest Common Factor and Least Common Multiple - Quiz

Common Core 6.NS.B.4 · maths-pdf.fr/en/

Name: _____ Class: _____ Date: ____/____/____

This quiz has 10 multiple-choice questions on GCF, LCM, prime factorization, and the distributive property (Common Core 6.NS.B.4). Choose one answer for each question and read the explanation to see the common mistake.

Grade 6 · Common Core State Standards: **6.NS.B.4**

Questions

Question 1

What is the GCF of 20 and 30?

- A. 5
- B. 60
- C. 10
- D. 2

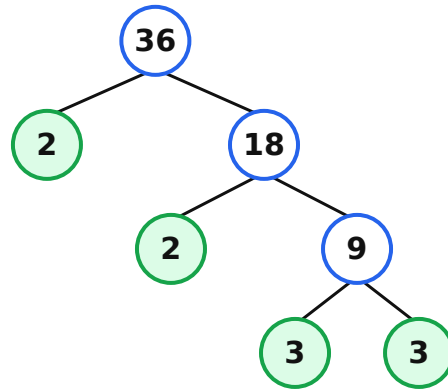
Question 2

What is the LCM of 8 and 12?

- A. 4
- B. 96
- C. 24
- D. 48

Question 3

Which is the prime factorization of 36?



Factor tree.

- A. $2^2 \times 3^2$
- B. 2×18
- C. 4×9
- D. $2^3 \times 3$

Question 4

Which expression equals $24 + 40$?

- A. $8(3+5)$
- B. $4(6+10)+8$
- C. $8(3+40)$
- D. $6(4+7)$

Question 5

Which pair has a GCF of 1?

- A. 6 and 9
- B. 9 and 16
- C. 8 and 12
- D. 10 and 15

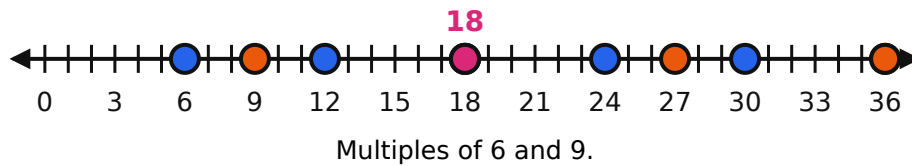
Question 6

A bakery has 30 muffins and 45 cookies and makes identical boxes with none left over. What is the greatest number of boxes?

- A. 5
- B. 15
- C. 30
- D. 90

Question 7

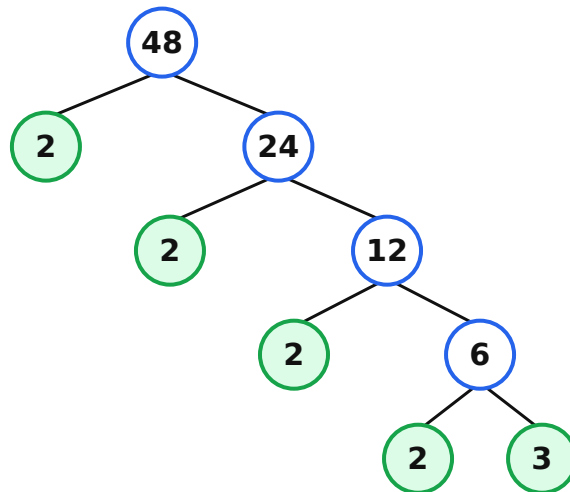
Two lights blink every 9 seconds and every 6 seconds. When do they blink together?



- A. Every 3 seconds
- B. Every 54 seconds
- C. Every 15 seconds
- D. Every 18 seconds

Question 8

What is the GCF of 48 and 72?



Factor tree of 48.

- A. 24
- B. 12
- C. 144
- D. 6

Question 9

Which number is a common multiple of 4 and 10?

- A. 14
- B. 60
- C. 30
- D. 45

Question 10

What is the missing number: $35 + 56 = 7(5 + ?)$?

- A. 7
- B. 9
- C. 56
- D. 8

Answers

1. **C** - Common factors of 20 and 30 are 1, 2, 5, 10, and the greatest is 10. 60 is the LCM.
2. **C** - Multiples of 12: 12, 24. 24 is also a multiple of 8. 4 is the GCF.
3. **A** - $36 = 2 \times 2 \times 3 \times 3$. The options 2×18 and 4×9 are not all prime factors.
4. **A** - $8 \times 3 = 24$ and $8 \times 5 = 40$, so $8(3+5)$.
5. **B** - $9 = 3 \times 3$ and $16 = 2^4$ share no prime factor.
6. **B** - GCF of 30 and 45 is 15. 90 is the LCM.
7. **D** - LCM of 6 and 9 is 18.
8. **A** - $48 = 2^4 \times 3$ and $72 = 2^3 \times 3^2$, so $\text{GCF} = 2^3 \times 3 = 24$.
9. **B** - 60 is a multiple of 4 (4×15) and of 10 (10×6). 30 is not a multiple of 4.
10. **D** - $7 \times 8 = 56$.

Remember

- A factor divides a number evenly; a multiple is a product with a whole number.
- The GCF is the largest shared factor.
- The LCM is the smallest shared multiple.
- Prime factorization helps: use the smaller exponents for the GCF and the greater for the LCM.
- The GCF lets you write a sum as GCF times a sum, such as $36 + 48 = 12(3 + 4)$.