

Factors, LCM & GCF

Numbers & Patterns · Grade 6

◆ Medium · 10 Questions

Solve each problem. Show your work in the space provided. Write your answer on the line.

1. Find the prime factorisation of 36.

Answer: _____

2. Find the prime factorisation of 60.

Answer: _____

3. Find the GCF of 24 and 36 using prime factorisation.

Answer: _____

4. Find the LCM of 4 and 6.

Answer: _____

5. Find the LCM of 8 and 12.

Answer: _____

6. Find the GCF of 42 and 70.

Answer: _____

7. Find the LCM of 5 and 7.

Answer: _____

8. Find the prime factorisation of 100.

Answer: _____

9. Find GCF and LCM of 18 and 24.

Answer: _____

10. The GCF of two numbers is 9.

Their product is 324.

Find the LCM.

Answer: _____

Answer Key

Factors, LCM & GCF — Medium

1. $36 = 2^2 \times 3^2$

$36 = 4 \times 9 = 2^2 \times 3^2$. Or: $36 \rightarrow 18 \rightarrow 9 \rightarrow 3 \times 3$. Tree: $36 = 2 \times 18 = 2 \times 2 \times 9 = 2 \times 2 \times 3 \times 3 = 2^2 \times 3^2$.

2. $60 = 2^2 \times 3 \times 5$

$60 = 2 \times 30 = 2 \times 2 \times 15 = 2 \times 2 \times 3 \times 5 = 2^2 \times 3 \times 5$.

3. $GCF = 12$

$24 = 2^3 \times 3$. $36 = 2^2 \times 3^2$. $GCF = 2^2 \times 3 = 4 \times 3 = 12$.

4. 12

Multiples of 4: 4, 8, 12... Multiples of 6: 6, 12... $LCM = 12$.

5. 24

$8 = 2^3$, $12 = 2^2 \times 3$. $LCM = 2^3 \times 3 = 24$.

6. 14

$42 = 2 \times 3 \times 7$. $70 = 2 \times 5 \times 7$. $GCF = 2 \times 7 = 14$.

7. 35

5 and 7 are both prime. $LCM = 5 \times 7 = 35$.

8. $100 = 2^2 \times 5^2$

$100 = 4 \times 25 = 2^2 \times 5^2$.

9. $GCF = 6$. $LCM = 72$.

$18 = 2 \times 3^2$. $24 = 2^3 \times 3$. $GCF = 2 \times 3 = 6$. $LCM = 2^3 \times 3^2 = 72$.

10. 36

$GCF \times LCM = \text{product}$. $9 \times LCM = 324$. $LCM = 36$.