Name _____ Date _____

GCF and LCM

Find the GCF and the LCM of each pair.

1. 3 and 11

2. 6 and 10

3. 16 and 28

4. 10 and 35

5. 25 and 30

6. 9 and 12

7. 4 and 10

8. 18 and 26

9. 6 and 27

10. 18 and 30

Answer Key: GCF and LCM

Each answer shows the prime factorizations used to find it.

1. **GCF 1, LCM 33** 3 is prime; 11 is prime. No prime factor is shared, so the GCF is 1. Every prime, highest power: 3 × 11, so the LCM is 33. Check: 1 × 33 = 33 = 3 × 11.
2. **GCF 2, LCM 30** 6 = 2 × 3; 10 = 2 × 5. Shared primes, lowest powers: 2, so the GCF is 2. Every prime, highest power: 2 × 3 × 5, so the LCM is 30. Check: 2 × 30 = 60 = 6 × 10.
3. **GCF 4, LCM 112** 16 = 2^4; 28 = 2^2 × 7. Shared primes, lowest powers: 2^2, so the GCF is 4. Every prime, highest power: 2^4 × 7, so the LCM is 112. Check: 4 × 112 = 448 = 16 × 28.
4. **GCF 5, LCM 70** 10 = 2 × 5; 35 = 5 × 7. Shared primes, lowest powers: 5, so the GCF is 5. Every prime, highest power: 2 × 5 × 7, so the LCM is 70. Check: 5 × 70 = 350 = 10 × 35.
5. **GCF 5, LCM 150** 25 = 5^2; 30 = 2 × 3 × 5. Shared primes, lowest powers: 5, so the GCF is 5. Every prime, highest power: 2 × 3 × 5^2, so the LCM is 150. Check: 5 × 150 = 750 = 25 × 30.
6. **GCF 3, LCM 36** 9 = 3^2; 12 = 2^2 × 3. Shared primes, lowest powers: 3, so the GCF is 3. Every prime, highest power: 2^2 × 3^2, so the LCM is 36. Check: 3 × 36 = 108 = 9 × 12.
7. **GCF 2, LCM 20** 4 = 2^2; 10 = 2 × 5. Shared primes, lowest powers: 2, so the GCF is 2. Every prime, highest power: 2^2 × 5, so the LCM is 20. Check: 2 × 20 = 40 = 4 × 10.
8. **GCF 2, LCM 234** 18 = 2 × 3^2; 26 = 2 × 13. Shared primes, lowest powers: 2, so the GCF is 2. Every prime, highest power: 2 × 3^2 × 13, so the LCM is 234. Check: 2 × 234 = 468 = 18 × 26.
9. **GCF 3, LCM 54** 6 = 2 × 3; 27 = 3^3. Shared primes, lowest powers: 3, so the GCF is 3. Every prime, highest power: 2 × 3^3, so the LCM is 54. Check: 3 × 54 = 162 = 6 × 27.
10. **GCF 6, LCM 90** 18 = 2 × 3^2; 30 = 2 × 3 × 5. Shared primes, lowest powers: 2 × 3, so the GCF is 6. Every prime, highest power: 2 × 3^2 × 5, so the LCM is 90. Check: 6 × 90 = 540 = 18 × 30.