Name _____ Date _____ Class _____

LESSON 3-1

Dividing Fractions

Review for Mastery: Greatest Common Factor

The greatest common factor, or GCF, is the largest number that is the factor of any set of at least two numbers.

You can use prime factorization to find the GCF of two or more numbers.

To find the GCF of 18 and 24, first write the prime factorization of each number. Then identify the common prime factors.

$18 = \mathbf{2} \cdot 3 \cdot \mathbf{3}$
$24 = \mathbf{2} \cdot 2 \cdot 2 \cdot \mathbf{3}$

Next, find the product of the common prime factors.
$2 \cdot 3 = 6$

The GCF of 18 and 24 is 6.

Find the GCF of each set of numbers.

1. 32 and 48

   32 = _____

   48 = _____

   _____

2. 45 and 81

   45 = _____

   81 = _____

   _____

3. 18 and 36

   18 = _____

   36 = _____

   _____

4. 14 and 35

   14 = _____

   35 = _____

   _____

5. 42 and 72

   42 = _____

   72 = _____

   _____

6. 56 and 64

   56 = _____

   64 = _____

   _____

7. 28, 56, and 84

   28 = _____

   56 = _____

   84 = _____

   _____

8. 30, 45, and 75

   30 = _____

   45 = _____

   75 = _____

   _____

9. 36, 45, and 54

   36 = _____

   45 = _____

   54 = _____

   _____

Name _____ Class _____ Date _____

Practice 4-5 Prime Factorization

Determine whether each number is prime or composite.

1. 97 _____ 2. 63 _____ 3. 29 _____ 4. 120 _____

Use a factor tree to find the prime factors of each number. Then write the prime factorization, using exponents where possible.

5. 42 _____ 6. 130 _____ 7. 78 _____ 8. 126 _____

9. 125 _____ 10. 90 _____ 11. 92 _____ 12. 180 _____

Use a calculator to find the number with the given prime factorization.

13. $3^2 \cdot 11^2$ _____ 14. $2^2 \cdot 3 \cdot 5^3$ _____ 15. $3^2 \cdot 5^2 \cdot 7^3$ _____

Make lists of factors for each set of numbers. Then find the GCF.

16. 16, 20 _____ _____ _____

17. 24, 30 _____ _____ _____

18. 10, 25 _____ _____ _____

19. 15, 24 _____ _____ _____

Find the GCF for each pair of numbers.

20. 45, 60 _____ 21. 18, 42 _____ 22. 32, 80 _____

23. 20, 65 _____ 24. 24, 90 _____ 25. 17, 34 _____

26. 14, 35 _____ 27. 51, 27 _____ 28. 42, 63 _____