Name _____ Date _____

Use divisibility rules to determine whether the number is divisible by 2, 3, 5, 6, 9, and 10. Use calculator to check your answers.

1. 1200　　　　　　　**2.** 1515　　　　　　　**3.** 1071

List the factor pairs of the number.

5. 14　　　　　　　**6.** 26　　　　　　　**7.** 51

Write the prime factorization of the number.

19. 144　　　　　　　**20.** 243　　　　　　　**21.** 475

Find the number represented by the prime factorization.

17. $2^2 \cdot 5^2 \cdot 7$　　　　　　　　　　**18.** $2^2 \cdot 3^2 \cdot 11$

Solve the following

22. A teacher divides the students into three groups for a project. Each group has the same number of students. Is the total number of students *prime* or *composite*? Explain.

23. The glee club has 120 cupcakes to sell. They have decided to arrange the cupcakes in the shape of a rectangle, such that the rows have an even number of cupcakes and the columns have an odd number of cupcakes. How many arrangements of cupcakes can they create?

Name _____ Date _____

Use divisibility rules to determine whether the number is divisible by 2, 3, 5, 6, 9, and 10. Use a calculator to check your answers.

  1. 1035   **2.** 1830   **3.** 2061

List the factor pairs of the number.

  7. 32   **8.** 256   **9.** 594

Write the prime factorization of the number.

  14. 72   **15.** 85   **16.** 91

Find the number represented by the prime factorization.

  19. The prime factorization of a number is the product of the first 5 prime numbers. Find the number.

  23. A friend is building a dog pen with an area of 150 square feet. Each side must be at least 5 feet long.

    a. List all possible dimensions of the dog pen.

    b. What is the maximum amount of fence required to build the dog pen? How much fence is required?

    c. What dimensions would provide the longest running path for the dog?