

Math 2303
Homework 3
Arithmetic Operations

1. Arrange the following whole numbers in increasing order:
1000, 10001, 100010, 100100, 100011, 10010, 10111, 10012, 1100, 11011, 100099
 2. Use an array and multiplication as faster addition to demonstrate that the equation $2(3 + 4) = 2 \times 3 + 2 \times 4$ is true.
 3. Without using a calculator, add: $1 + 3 + 7 + 9 + 4$. Use parentheses and order to show the how you added them. Which properties of addition did you need to add in this manner?
 4. Describe the equation $42 \div 7 = 6$ using
 - a. the repeated subtraction method
 - b. the partitive method
 - c. division as the inverse of multiplication
- 5a. Mrs. Hopkins kindergarten class is helping to provide cookies for the school carnival. If there are 22 children in Mrs. Hopkins' class and each child brings two dozen cookies, how many cookies will the class provide? Write the mathematical equation that models this situation and solve it.
- 5b. Suppose Mrs. Hopkins kindergarten class brought a total of 660 cookies, with each child providing an equal number of cookies. Write the equation that can be used to find how many cookies each child brought. Which model of division is used in this problem?
6. Decide whether the following statements are true. If they are not true, give a counterexample.
 - a. A number is divisible by 8 if it is divisible by 4 and divisible by 2.
 - b. If 12 divides a number, then 6 also divides that number.
 - c. If a number is divisible by 4 and 6, then it also must be divisible by 24.
 7. Describe 3 different ways a designer could lay out parking lot spaces for 84 cars in rows, with an equal number of cars in each row and no spaces left over.