Math 6 Unit 1 worksheet: Tests for three and nine

Name _____ Date _____ Period _____

1. For each number, find its digit sum. Then use the digit sum to find the remainder when the number is divided by 9 and when it is divided by 3.

(a) 4,827 (b) 63,018 (c) 7,051 (d) 95,417 (e) 300,003 (f) 81,725

2. Mateo puts 2,417 stamps into an album. Each page holds 9 stamps, and a page is filled before the next one is started, so every page is full except the last one. Use the digit sum to find how many stamps are on the last page, and how many more stamps would fill it.

3. Jenny thinks of a whole number whose digits add up to 30. She does not say what the number is.

(a) Is her number divisible by 3? Is it divisible by 9?

(b) What remainder does her number leave when it is divided by 9?

(c) What is the smallest four-digit number whose digit sum is 30?

4. Find the largest five-digit number that is divisible by 9 and has five different digits. Explain how you know that no larger number works.

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5. Omar divides 7,426 by 9 and writes his answer as 824 remainder 6. Without dividing again, use the digit sum to show that his remainder is wrong. Then find the correct remainder and the correct quotient.

6. Mia has the number 2,571. She wants to write one more digit somewhere in it (in front, between two of its digits, or at the end) so that the new five-digit number is divisible by 9. Which digit must she write? Give two different numbers she could make.

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