Name _____ Date_____
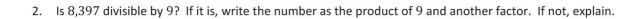
Divisibility Tests for 3 and 9

1. Is 26,341 divisible by 3? If it is, write the number as the product of 3 and another factor. If not, explain.

2. Is 8,397 divisible by 9? If it is, write the number as the product of 9 and another factor. If not, explain.

3. Explain why 186,426 is divisible by both 3 and 9.

1. Is 32,643 divisible by both 3 and 9? Why or why not?

2. Circle all the factors of 424,380 from the list below.

    2   3   4   5   8   9   10

3. Circle all the factors of 322,875 from the list below.

    2   3   4   5   8   9   10

4. Write a 3 digit number that is divisible by both 3 and 4. Explain how you know this number is divisible by 3 and 4.

5. Write a 4 digit number that is divisible by both 5 and 9. Explain how you know this number is divisible by 5 and 9.

1. Is $26,341$ divisible by 3? If it is, write the number as the product of 3 and another factor. If not, explain.

   The number $26,341$ is not divisible by 3 because the sum of the digits is 16, which is not divisible by 3.

2. Is $8,397$ divisible by 9? If it is, write the number as the product of 9 and another factor. If not, explain.

   The number $8,397$ is divisible by 9 because the sum of the digits is 27, which is divisible by 9. Nine is a factor of $8,397$ because $9 \times 933 = 8,397$.

3. Explain why $186,426$ is divisible by both 3 and 9.

   The number $186,426$ is divisible by both 3 and 9 because the sum of the digits is 27, which is divisible by both 3 and 9.

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1. Is $32,643$ divisible by both 3 and 9? Why or why not?

   The number $32,643$ is divisible by both 3 and 9 because the sum of the digits is 18, which is divisible by 3 and 9.

2. Circle all the factors of $424,380$ from the list below.

   (2)   (3)   (4)   (5)   8   9   (10)

3. Circle all the factors of $322,875$ from the list below.

   2   (3)   4   (5)   8   (9)   10

4. Write a 3 digit number that is divisible by both 3 and 4. Explain how you know this number is divisible by 3 and 4.

   Answers will vary. Possible student response: The sum of the digits is divisible by 3, and that's how I know the number is divisible by 3. The last 2 digits are divisible by 4, so the entire number is divisible by 4.

5. Write a 4 digit number that is divisible by both 5 and 9. Explain how you know this number is divisible by 5 and 9.

   Answers will vary. Possible student response: The number ends with a 5 or 0, so the entire number is divisible by 5. The sum of the digits is divisible by 9, so the entire number is divisible by 9.