**Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Week 6**

Repeater or Terminator?

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| Fraction | Prime Factorization | Decimal Equivalent |
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***Directions:*** Generate a table listing in one column the first 20 unit fractions ( 1/2, 1/3, 1/4, . . . 1/21). In the second column, list the prime factorization of the denominators; in the third column put the decimal equivalent for the fraction. You may use a calculator to get the decimal form.

***Task:*** After completing the table, try to discover a rule that will tell in advance if the decimal will repeat or terminate. Test the rule with fractions with denominators beyond 21.

***Challenge:*** confirm that your rule applies even if the numerator changes.