**Investigating Terminating and Recurring Decimals**

For each of the following fractions, use your calculator to convert it to a decimal, then decide whether it is terminating or recurring. Now find the denominator as a product of its prime factors. Can you spot any patterns?

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| **Fraction** | **Decimal using Calculator** | **Terminating or Recurring** | **Denominator as Product of Prime Factors** |  | **Fraction** | **Decimal using Calculator** | **Terminating or Recurring** | **Denominator as Product of Prime Factors** |
| $$\frac{1}{2}$$ |  |  |  |  | $$\frac{1}{12}$$ |  |  |  |
| $$\frac{1}{3}$$ |  |  |  |  | $$\frac{1}{13}$$ |  |  |  |
| $$\frac{1}{4}$$ |  |  |  |  | $$\frac{1}{14}$$ |  |  |  |
| $$\frac{1}{5}$$ |  |  |  |  | $$\frac{1}{15}$$ |  |  |  |
| $$\frac{1}{6}$$ |  |  |  |  | $$\frac{1}{16}$$ |  |  |  |
| $$\frac{1}{7}$$ |  |  |  |  | $$\frac{1}{17}$$ |  |  |  |
| $$\frac{1}{8}$$ |  |  |  |  | $$\frac{1}{18}$$ | $$0.0\dot{5}$$ | Recurring | $$2×3×3$$ |
| $$\frac{1}{9}$$ |  |  |  |  | $$\frac{1}{19}$$ |  |  |  |
| $$\frac{1}{10}$$ |  |  |  |  | $$\frac{1}{20}$$ |  |  |  |
| $$\frac{1}{11}$$ |  |  |  |  | $$\frac{1}{21}$$ |  |  |  |