Starters:

1. Use the Division Algorithm to write $\dfrac{179}{7}$ as a decimal.	2. Convert $3.012\,\overline{351}$ to a fraction.

Theorem 2.6: When is a proper fraction a terminating decimal? And how can we tell that it terminates in t digits after the decimal?

Theorem 2.8: What happens if the denominator of a proper fraction (in reduced form) has no 2 nor 5 as prime factors?

Theorem 2.7: Derive a formula for simple-periodic decimal, x (that's between 0 and 1), with period p.

Let $x = 0.\overline{d_1 d_2 d_3 ... d_p}$.

Theorem 2.9 & 2.10: What if $\quad x = 0.d_1 d_2 d_3 \ldots d_t \overline{d_{t+1} d_{t+2} d_{t+3} \ldots d_{t+p}}$?

Examples:

1. (a) Find decimal representations for $\dfrac{1}{27}$ and $\dfrac{1}{37}$.

(b) Can you find another similar example?

2. Consider reciprocals of primes that have simple-periodic decimal representations.
(a) Show there is exactly one with period p = 1. What is it?

(b) Show there is exactly one with period p = 2. What is it?

(c) Show there is exactly one with period p = 3. What is it?

(d) Show there are exactly two with period 5. What are they?

3. Use the formula for a geometric series to write $0.\overline{345}$ and $0.3\overline{45}$ as reduced fractions.