

Dividing and Recording Division Efficiently

In some of these division problems, there will be something left over at the end — a remainder.

Some division problems have interesting patterns in the quotients. All the problems on this page involve dividing into a “power of 10” (1, or 10, or 10×10 , or $10 \times 10 \times 10$, or $10 \times 10 \times 10 \times 10$, and so on).

Find the quotients and remainders, and look for patterns.

- ① What do these problems have in common? What do the quotients have in common?

$$3 \overline{)1,000,000}$$

$$9 \overline{)1,000,000}$$

- ② What do these problems have in common? What do the quotients have in common?

$$22 \overline{)10,000,000}$$

$$55 \overline{)10,000,000}$$

$$66 \overline{)10,000,000}$$

- ③ What do you notice about this quotient?

$$\begin{array}{r} 142,857,142,857 \text{ r}1 \\ 7 \overline{)1,000,000,000,000} \end{array}$$

- ④ Without actually doing the division, try to predict this quotient. Problem 3 might help.

$$7 \overline{)1,000,000,000,000,000}$$