

## 1.2 + - × ÷ 工艺展品

$$\begin{array}{rcl} (1) & 1 \times 63 & 63 \\ & 121 \times 63 & 7623 \\ & 12321 \times 63 & 776223 \\ & 1234321 \times 63 & 77762223 \\ & 123454321 \times 63 & = 7777622223 \\ & 12345654321 \times 63 & 777776222223 \\ & 1234567654321 \times 63 & 77777762222223 \\ & 123456787654321 \times 63 & 7777777622222223 \\ & 12345678987654321 \times 63 & 777777776222222223 \end{array}$$

道理：例如第五行的 7777622223 是这样得到的：

$$\begin{aligned} 7777 \times (10000 - 1) &= 777700000 - 7777 \\ &= 7777622223 \end{aligned}$$

$$\begin{aligned} 7777 \times 9999 &= 7 \times 9 \times (11111 \times 11111) \\ &= 123454321 \times 63 \end{aligned}$$

其余各行道理相同。

$$\begin{aligned} (2) \quad (1+1+1) \times 37 &= 111, \quad (5+5+5) \times 37 = 555, \\ (2+2+2) \times 37 &= 222, \quad (6+6+6) \times 37 = 666, \\ (3+3+3) \times 37 &= 333, \quad (7+7+7) \times 37 = 777, \\ (4+4+4) \times 37 &= 444, \quad (8+8+8) \times 37 = 888, \\ (9+9+9) \times 37 &= 999 \end{aligned}$$

道理： $111 \div 37 = 3$

$$\begin{aligned} (3) \quad 7 \times 15873 &= 111111, \quad 35 \times 15873 = 555555, \\ 14 \times 15873 &= 222222, \quad 42 \times 15873 = 666666, \\ 21 \times 15873 &= 333333, \quad 49 \times 15873 = 777777, \\ 28 \times 15873 &= 444444, \quad 56 \times 15873 = 888888, \end{aligned}$$

$$123454321 = 11111 \times 11111,$$

$$12345654321 = 111111 \times 111111,$$

$$1234567654321 = 1111111 \times 1111111,$$

$$123456787654321 = 11111111 \times 11111111,$$

$$12345678987654321 = 111111111 \times 111111111$$

而(5)的道理是  $\underbrace{11 \cdots 1}_{n \text{ 个}} \times \underbrace{11 \cdots 1}_{n \text{ 个}}$  的竖式形如

$$\begin{array}{r}
 11 \cdots 1 \\
 \times ) 11 \cdots 1 \\
 \hline
 11 \cdots 11 \\
 \quad \cdot \cdot \cdot \\
 \quad \cdot \cdot \cdot \\
 \quad \cdot \cdot \cdot \\
 \quad \cdot \cdot \cdot \\
 \quad \cdot \cdot \cdot \\
 + ) 1 \cdots 1 \\
 \quad \cdot \cdot \cdot \\
 \quad \cdot \cdot \cdot \\
 \quad \cdot \cdot \cdot \\
 \quad \cdot \cdot \cdot \\
 \quad \cdot \cdot \cdot \\
 \hline
 12 \quad (n-1) \quad n(n-1) \cdots 2 \quad 1 \quad 1 \leq n \leq 9
 \end{array}$$