

## العمليات على الأعداد الصحيحة الطبيعية

### (I) الجمع والطرح في الأعداد الصحيحة الطبيعية

$$a + b + c = (a + b) + c$$

$$\begin{array}{r} 198 \\ + 102 \\ \hline 300 \end{array}$$

$$\begin{aligned} 198 + 50 + 102 &= (198 + 102) + 50 \\ &= 300 + 50 \\ &= 350 \end{aligned}$$

$$\begin{array}{r} 107 \\ + 193 \\ \hline 300 \end{array} \quad \begin{array}{r} 52 \\ + 68 \\ \hline 120 \end{array}$$

$$\begin{aligned} 193 + 52 + 68 + 107 &= (107 + 193) + (52 + 68) \\ &= 300 + 120 \\ &= 420 \end{aligned}$$

$$\begin{aligned} A &= (512 + 609) - (512 + 409) \\ &= 512 + 609 - 512 - 409 \\ &= 609 - 409 \\ &= 200 \end{aligned}$$

$$\begin{aligned} (a+b) &= a+b \\ -(a+b) &= -a-b \end{aligned}$$

$$\begin{aligned} B &= (197 + 58) - (197 + 18) \\ &= 197 + 58 - 197 - 18 \\ &= 58 - 18 \\ &= 40 \end{aligned}$$

$$\begin{aligned} A &= 190 - (90 + 70) \\ &= (190 - 90) - 70 \\ &= 100 - 70 \\ &= 30 \end{aligned}$$

$$\begin{aligned}
 B &= 130 - (52 + 30) \\
 &= \underline{130} - 52 - \underline{30} \\
 &= (130 - 30) - 52 \\
 &= 100 - 52 \\
 &= 48
 \end{aligned}$$

$$\begin{array}{r}
 100 \\
 - 52 \\
 \hline
 48
 \end{array}$$

$$\begin{aligned}
 A &= 13 + 16 + 24 + 17 + 50 + 90 \\
 &= (13 + 17) + (16 + 24) + (50 + 90) \\
 &= 30 + 40 + 140 \\
 &= 210
 \end{aligned}$$

$$\begin{array}{r}
 13 \\
 + 17 \\
 \hline
 30 \\
 + 16 \\
 + 24 \\
 \hline
 40 \\
 + 50 \\
 + 90 \\
 \hline
 140
 \end{array}$$

$$\begin{array}{r}
 140 \\
 + 40 \\
 + 30 \\
 \hline
 210
 \end{array}$$

$$15 + 75 = 90$$

$$\begin{array}{r}
 90 \\
 - 15 \\
 \hline
 75
 \end{array}$$

$$60 + 12 = 72$$

$$\begin{array}{r}
 72 \\
 - 60 \\
 \hline
 12
 \end{array}$$

$$30 - 12 = 18$$

$$\begin{array}{r}
 30 \\
 - 12 \\
 \hline
 18
 \end{array}$$

$$40 - 15 = 25$$

$$\begin{array}{r}
 40 \\
 - 15 \\
 \hline
 25
 \end{array}$$

$$55 - 15 = 40$$

$$\begin{array}{r}
 40 \\
 + 15 \\
 \hline
 55
 \end{array}$$

$$(30 + 20) - 14 = 36$$

$$\begin{array}{r}
 36 \\
 + 14 \\
 \hline
 50
 \end{array}$$

$$30 + (20) = 50$$

$$\begin{array}{r}
 50 \\
 - 20 \\
 \hline
 30
 \end{array}$$

$$135 - 20 = 115$$

$$\begin{array}{r}
 115 \\
 + 20 \\
 \hline
 135
 \end{array}$$

$$(110 + 40) - 30 = 120$$

$$\begin{array}{r} 120 \\ + 30 \\ \hline 150 \end{array}$$

$$110 + 40 = 150$$

$$\begin{array}{r} 150 \\ - 110 \\ \hline 040 \end{array}$$

## (II) الغزب في الأعداد الواجبة الطبيعية

$$A = 13 \times 12 = 156$$

$$\begin{array}{r} \times 13 \\ 12 \\ \hline 26 \\ 130 \\ \hline 156 \end{array}$$

$$\begin{array}{r} 4 \\ 98 \\ \times 16 \\ \hline 588 \\ + 980 \\ \hline 1568 \end{array}$$

$$B = 98 \times 16 = 1568$$

$$C = 76 \times 54 = 4104$$

$$\begin{array}{r} 3 \\ 2 \\ \times 76 \\ 54 \\ \hline 304 \\ 3800 \\ \hline 4104 \end{array}$$

$$A = 15 \times (16 \oplus 4)$$

$$\begin{aligned} &= 15 \times 16 + 15 \times 4 \\ &= 240 + 60 \\ &= 300 \end{aligned}$$

$$\begin{array}{r} 3 \\ 15 \\ \times 16 \\ \hline 90 \\ 150 \\ \hline 240 \end{array} \quad \begin{array}{r} 1 \\ 240 \\ 60 \\ \hline 300 \end{array}$$

$$\begin{array}{r} 2 \\ \times 15 \\ 4 \\ \hline 60 \end{array}$$

$$\begin{aligned} B &= 12 \times (9 \oplus 4) \\ &= 12 \times 9 + 12 \times 4 \\ &= 108 + 48 \\ &= 156 \end{aligned}$$

$$\begin{array}{r} 1 \\ \times 12 \\ 9 \\ \hline 108 \\ + 108 \\ 48 \\ \hline 156 \end{array} \quad \begin{array}{r} 1 \\ \times 12 \\ 4 \\ \hline 48 \end{array}$$

$$\begin{aligned}
 C &= 9 \times (18 - 5) \\
 &= 9 \times 18 - 9 \times 5 \\
 &= 108 - 45 \\
 &= 63
 \end{aligned}$$

$$\begin{array}{r}
 12 \\
 \times 9 \\
 \hline
 108 \\
 \end{array}
 \qquad
 \begin{array}{r}
 108 \\
 - 45 \\
 \hline
 63
 \end{array}$$

$$\begin{aligned}
 A &= 15 \times 9 + 15 \times 1 \\
 &= 15 \times (9 + 1) \\
 &= 15 \times 10 \\
 &= 150
 \end{aligned}$$

$$\begin{aligned}
 B &= 168 \times 18 - 168 \times 8 \\
 B &= 168 \times (18 - 8) \\
 &= 168 \times 10 \\
 &= 1680
 \end{aligned}$$

$$15 \times 4 = 60$$

$$120 \times 2 = 240$$

$$15 \times \dots = 60$$

- ① 120 } +120
- ② 240

- ① 15 } +15
- ② 30 } +15
- ③ 45 } +15
- ④ 60 } +15

$$\begin{array}{r}
 60 \overline{) 15} \\
 -60 \\
 \hline
 00
 \end{array}$$

$$\begin{array}{r}
 240 \overline{) 120} \\
 240 \\
 \hline
 00
 \end{array}$$

$$14 \times 5 = 70$$

$$\begin{array}{r}
 70 \overline{) 14} \\
 -70 \\
 \hline
 00
 \end{array}$$

- ① 14 } +14
- ② 28 } +14
- ③ 42 } +14
- ④ 56 } +14
- ⑤ 70 } +14