

Soroban: The Japanese Abacus

The Japan Society (2019)

Example Questions

In order to avoid confusion when teaching the foundations of addition and subtraction on the soroban, students should only be given sums that do not include borrowing, carrying or breaking down 5.

Below are examples of sums that can be used.

Addition: Ones and Ones

| | | | |
|-------|-------|-------|-------|
| $1+2$ | $2+2$ | $5+2$ | $5+4$ |
| $1+3$ | $5+1$ | $5+3$ | $6+1$ |
| $6+2$ | $6+3$ | $7+1$ | $7+2$ |
| $8+1$ | | | |

Addition: Tens and Ones – using 1 beads only

| | | | |
|--------|--------|--------|--------|
| $10+1$ | $4+10$ | $11+3$ | $2+12$ |
| $13+1$ | $20+4$ | $3+30$ | $33+1$ |

Addition: Tens and Ones – using 1 beads and 5 beads

| | | | |
|--------|--------|--------|--------|
| $15+3$ | $4+15$ | $26+3$ | $37+2$ |
| $45+2$ | $5+50$ | $8+60$ | $61+3$ |
| $1+66$ | $72+2$ | $81+3$ | $9+80$ |
| $90+4$ | $4+95$ | | |

Addition: Tens and tens – using 1 beads only

| | | | |
|---------|---------|---------|---------|
| $11+12$ | $12+21$ | $13+20$ | $14+30$ |
| $12+32$ | $11+23$ | $24+20$ | $30+10$ |

Addition : Tens and tens – using 1 beads and 5 beads

| | | | |
|---------|---------|---------|---------|
| $12+15$ | $11+26$ | $25+13$ | $51+17$ |
| $62+32$ | $16+63$ | $40+51$ | $73+21$ |
| $19+50$ | $33+55$ | $21+65$ | $80+18$ |

Subtraction: Ones and Ones

| | | | |
|---------|---------|---------|---------|
| $9 - 2$ | $9 - 4$ | $8 - 5$ | $8 - 3$ |
| $7 - 2$ | $6 - 1$ | $4 - 3$ | $2 - 1$ |

Subtraction: Tens and Tens – using 1 beads only

| | | | |
|-----------|-----------|-----------|-----------|
| $41 - 31$ | $34 - 13$ | $22 - 12$ | $44 - 23$ |
| $33 - 23$ | $44 - 14$ | $30 - 10$ | |

Subtraction: Tens and Tens – using 1 beads and 5 beads

| | | | |
|-----------|-----------|-----------|-----------|
| $98 - 40$ | $77 - 32$ | $60 - 10$ | $83 - 32$ |
| $79 - 25$ | $68 - 33$ | $86 - 55$ | $49 - 16$ |
| $62 - 11$ | $47 - 21$ | $36 - 15$ | $85 - 20$ |