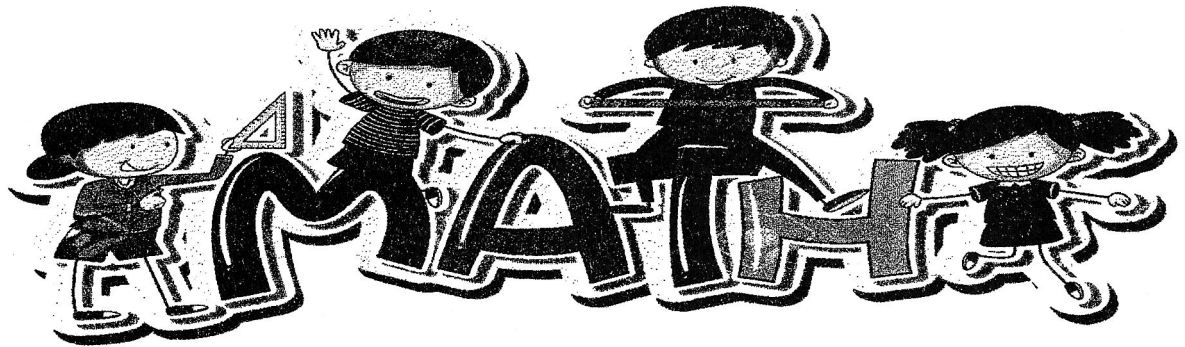


# MATHEMATICS



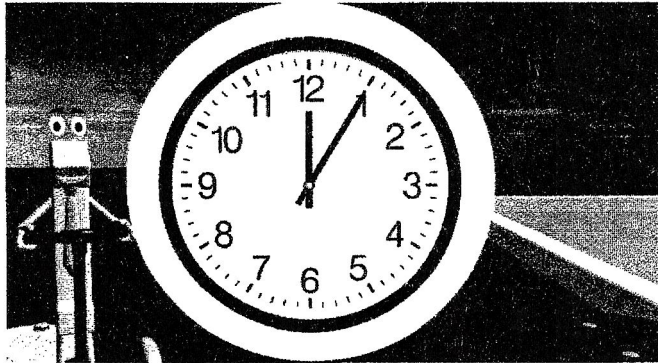
**The only way  
to learn  
mathematics  
is to do  
mathematics**

|                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| $1 \times 1 = 1$<br>$2 \times 1 = 2$<br>$3 \times 1 = 3$<br>$4 \times 1 = 4$<br>$5 \times 1 = 5$<br>$6 \times 1 = 6$<br>$7 \times 1 = 7$<br>$8 \times 1 = 8$<br>$9 \times 1 = 9$<br>$10 \times 1 = 10$<br>$11 \times 1 = 11$<br>$12 \times 1 = 12$          | $1 \times 2 = 2$<br>$2 \times 2 = 4$<br>$3 \times 2 = 6$<br>$4 \times 2 = 8$<br>$5 \times 2 = 10$<br>$6 \times 2 = 12$<br>$7 \times 2 = 14$<br>$8 \times 2 = 16$<br>$9 \times 2 = 18$<br>$10 \times 2 = 20$<br>$11 \times 2 = 22$<br>$12 \times 2 = 24$                    | $1 \times 3 = 3$<br>$2 \times 3 = 6$<br>$3 \times 3 = 9$<br>$4 \times 3 = 12$<br>$5 \times 3 = 15$<br>$6 \times 3 = 18$<br>$7 \times 3 = 21$<br>$8 \times 3 = 24$<br>$9 \times 3 = 27$<br>$10 \times 3 = 30$<br>$11 \times 3 = 33$<br>$12 \times 3 = 36$                   | $1 \times 4 = 4$<br>$2 \times 4 = 8$<br>$3 \times 4 = 12$<br>$4 \times 4 = 16$<br>$5 \times 4 = 20$<br>$6 \times 4 = 24$<br>$7 \times 4 = 28$<br>$8 \times 4 = 32$<br>$9 \times 4 = 36$<br>$10 \times 4 = 40$<br>$11 \times 4 = 44$<br>$12 \times 4 = 48$                   |
| $1 \times 5 = 5$<br>$2 \times 5 = 10$<br>$3 \times 5 = 15$<br>$4 \times 5 = 20$<br>$5 \times 5 = 25$<br>$6 \times 5 = 30$<br>$7 \times 5 = 35$<br>$8 \times 5 = 40$<br>$9 \times 5 = 45$<br>$10 \times 5 = 50$<br>$11 \times 5 = 55$<br>$12 \times 5 = 60$  | $1 \times 6 = 6$<br>$2 \times 6 = 12$<br>$3 \times 6 = 18$<br>$4 \times 6 = 24$<br>$5 \times 6 = 30$<br>$6 \times 6 = 36$<br>$7 \times 6 = 42$<br>$8 \times 6 = 48$<br>$9 \times 6 = 54$<br>$10 \times 6 = 60$<br>$11 \times 6 = 66$<br>$12 \times 6 = 72$                 | $1 \times 7 = 7$<br>$2 \times 7 = 14$<br>$3 \times 7 = 21$<br>$4 \times 7 = 28$<br>$5 \times 7 = 35$<br>$6 \times 7 = 42$<br>$7 \times 7 = 49$<br>$8 \times 7 = 56$<br>$9 \times 7 = 63$<br>$10 \times 7 = 70$<br>$11 \times 7 = 77$<br>$12 \times 7 = 84$                 | $1 \times 8 = 8$<br>$2 \times 8 = 16$<br>$3 \times 8 = 24$<br>$4 \times 8 = 32$<br>$5 \times 8 = 40$<br>$6 \times 8 = 48$<br>$7 \times 8 = 56$<br>$8 \times 8 = 64$<br>$9 \times 8 = 72$<br>$10 \times 8 = 80$<br>$11 \times 8 = 88$<br>$12 \times 8 = 96$                  |
| $1 \times 9 = 9$<br>$2 \times 9 = 18$<br>$3 \times 9 = 27$<br>$4 \times 9 = 36$<br>$5 \times 9 = 45$<br>$6 \times 9 = 54$<br>$7 \times 9 = 63$<br>$8 \times 9 = 72$<br>$9 \times 9 = 81$<br>$10 \times 9 = 90$<br>$11 \times 9 = 99$<br>$12 \times 9 = 108$ | $1 \times 10 = 10$<br>$2 \times 10 = 20$<br>$3 \times 10 = 30$<br>$4 \times 10 = 40$<br>$5 \times 10 = 50$<br>$6 \times 10 = 60$<br>$7 \times 10 = 70$<br>$8 \times 10 = 80$<br>$9 \times 10 = 90$<br>$10 \times 10 = 100$<br>$11 \times 10 = 110$<br>$12 \times 10 = 120$ | $1 \times 11 = 11$<br>$2 \times 11 = 22$<br>$3 \times 11 = 33$<br>$4 \times 11 = 44$<br>$5 \times 11 = 55$<br>$6 \times 11 = 66$<br>$7 \times 11 = 77$<br>$8 \times 11 = 88$<br>$9 \times 11 = 99$<br>$10 \times 11 = 110$<br>$11 \times 11 = 121$<br>$12 \times 11 = 132$ | $1 \times 12 = 12$<br>$2 \times 12 = 24$<br>$3 \times 12 = 36$<br>$4 \times 12 = 48$<br>$5 \times 12 = 60$<br>$6 \times 12 = 72$<br>$7 \times 12 = 84$<br>$8 \times 12 = 96$<br>$9 \times 12 = 108$<br>$10 \times 12 = 120$<br>$11 \times 12 = 132$<br>$12 \times 12 = 144$ |

# STUDY NOTES

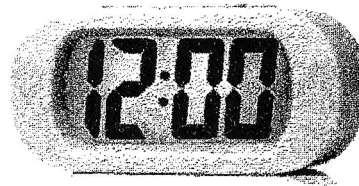
## TIME

Analogue clock



- Long arm = shows minutes
- Short arm = shows hours

Digital clock



60 minutes = 1 hour  
30 minutes =  $\frac{1}{2}$  hour  
15 minutes =  $\frac{1}{4}$  hour  
45 minutes =  $\frac{3}{4}$  hour

## ASCENDING ORDER

Arranging the numbers from SMALL to BIG

Arrange the following numbers in ascending order:

456; 386; 129; 136; 437

---

## DESCENDING ORDER

Arranging the numbers from BIGG to SMALL

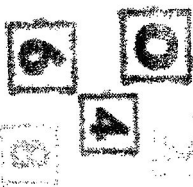
Arrange the following numbers in descending order:

456; 386; 129; 136; 437

---

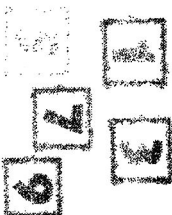
Even

Numbers ending in



Odd

Numbers ending in



**652**

**VALUE: 50**

**PLACE VALUE: Tens**

**PROBLEM SOLVING**

**REMEMBER YOUR NUMBER SENTENCE!!!!**

**< SMALLER  
> BIGGER  
= EQUAL**

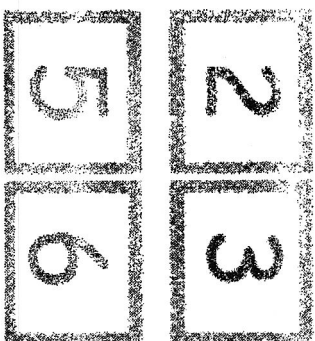
**Expanded Form**

In expanded form, we write the number by showing the value of each digit.

Standard Form 7294

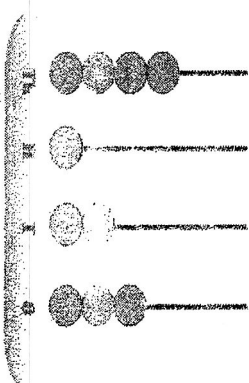
Expanded Form 7000 + 200 + 90 + 4

**DIGIT CARDS**



**BIGGEST NUMBER: 6 532**

**SMALLEST EVEN NUMBER: 2 365**



**1 AND 4 IN  
ABACUS**

**= 4 123**

**ROUNDING  
OFF**

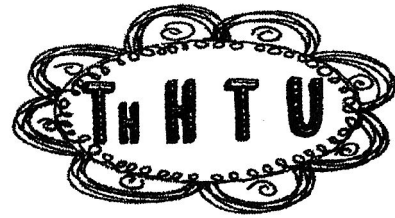
**EXAMPLE:**

|     |     |     |
|-----|-----|-----|
|     | 10  | 100 |
| 126 | 130 | 100 |

$$\begin{aligned}
 153 + 276 &= \square \\
 &= (100+50+3) + (200+70+6) \\
 &= (100+200) + (50+70) + (3+6) \\
 &= 300 + 120 + 9 \\
 &= 429
 \end{aligned}$$

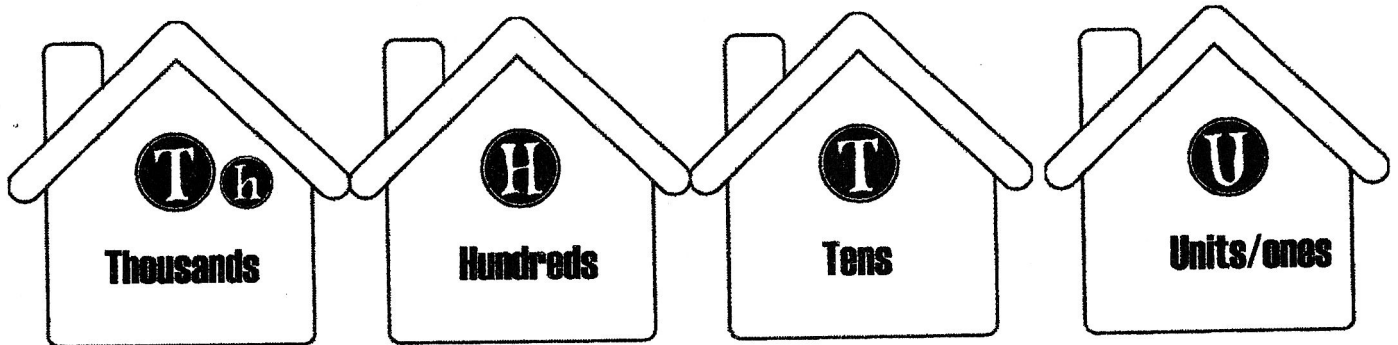
$$\begin{aligned}
 286 - 123 &= \square \\
 &= (200+80+6) - (100+20+3) \\
 &= (200-100) + (80-20) + (6-3) \\
 &= 100 + 60 + 3 \\
 &= 163
 \end{aligned}$$

# Place Values



## 1. Place Values

**Place values:** place where the number stands, re. the figure is in the place of the ones, tens, hundreds, thousands, etc.



## Remember:

When we use the abbreviations TH, H, T or U in terms of place values, it must always be capitalized.

1.1. Identify the place values of the underlined digits:

e.g.  $\underline{1}$  234  $\rightarrow$  Th

1  $\underline{2}$ 34  $\rightarrow$  H

1 234  $\rightarrow$  T

1 234  $\rightarrow$  U

8 021  $\rightarrow$  \_\_\_\_\_

1569  $\rightarrow$  \_\_\_\_\_

7133  $\rightarrow$  \_\_\_\_\_

1465  $\rightarrow$  \_\_\_\_\_

7146  $\rightarrow$  \_\_\_\_\_

2347  $\rightarrow$  \_\_\_\_\_

8292  $\rightarrow$  \_\_\_\_\_

882  $\rightarrow$  \_\_\_\_\_

8087  $\rightarrow$  \_\_\_\_\_

2958  $\rightarrow$  \_\_\_\_\_

2054  $\rightarrow$  \_\_\_\_\_

4181  $\rightarrow$  \_\_\_\_\_

1.2. Colour the correct place value of the underlined digits:

|               |   |   |   |               |   |   |   |               |   |   |   |
|---------------|---|---|---|---------------|---|---|---|---------------|---|---|---|
| 2 <u>8</u> 85 |   |   |   | 1 <u>4</u> 20 |   |   |   | 1 00 <u>7</u> |   |   |   |
| Th            | H | T | U | Th            | H | T | U | Th            | H | T | U |
| 17 <u>5</u> 4 |   |   |   | <u>8</u> 242  |   |   |   | 710           |   |   |   |
| Th            | H | T | U | Th            | H | T | U | Th            | H | T | U |
| <u>1</u> 211  |   |   |   | 5 <u>3</u> 47 |   |   |   | 2 <u>5</u> 56 |   |   |   |
| Th            | H | T | U | Th            | H | T | U | Th            | H | T | U |

## 5. Rounding off

### METHOD 1:

Look at the digit to the right of the number. If it is more than 5 – round up and if it's less than 5, round down.

e.g.:

Round off the number 6 8 7 to the nearest:

a) 10 - 7 is more than 5, so the rounded off number is 690.

The digit to the right of the TENS is 7 which is more than 5, so the number must be rounded up to the next 10, which is 90.

b) 100 - 6 8 7

The digit to the right of the HUNDREDS is 8. This is more than 5, so the number must be rounded up to the next hundred, which is 700.

OR

### METHOD 2:

REMEMBER THE RULE: If the numbers have ...



1, 2, 3, 4 – ROUND DOWN



5, 6, 7, 8, 9 – ROUND UP



NB: We use rounding off to help us **ESTIMATE** answers to sums. If you have to estimate, then you need to round off ☺

### Example 1:

Round off 723 to the nearest 10. - 720  
[only the TENS change in this number]

We look at the TENS of the number (20) Ask yourself between which two TENS is the number 23 found? Draw a mini "table" / number line for yourself.

a) Nearest 10:

Round DOWN      Round UP

|    |    |    |
|----|----|----|
| 20 | 25 | 30 |
|----|----|----|

Halfway will be 25. So the number 23 is less than 25 and therefore closer to 20 ☺  
So the final answer would be: 720

# Rounding off

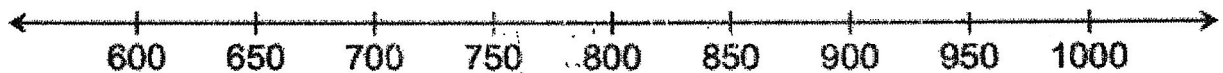
1. Round off to the nearest 10 and 100

a) Use the number line and round the following numbers off to the nearest 10.



- |               |               |               |
|---------------|---------------|---------------|
| - 816 ~ _____ | - 823 ~ _____ | - 867 ~ _____ |
| - 864 ~ _____ | - 855 ~ _____ | - 829 ~ _____ |
| - 831 ~ _____ | - 892 ~ _____ | - 805 ~ _____ |

b) Use the number line and round the following numbers off to the nearest 100.



- |               |               |               |
|---------------|---------------|---------------|
| - 626 ~ _____ | - 951 ~ _____ | - 879 ~ _____ |
| - 754 ~ _____ | - 849 ~ _____ | - 939 ~ _____ |
| - 811 ~ _____ | - 650 ~ _____ | - 755 ~ _____ |

c) Complete the table by rounding the numbers to 10 & 100.

| ~ 10 | Numbers | ~ 100 |
|------|---------|-------|
|      | 2 146   |       |
|      | 1 263   |       |
|      | 3 555   |       |
|      | 3 119   |       |
|      | 2 452   |       |
|      | 6 977   |       |
|      | 2 751   |       |

# ADDITION

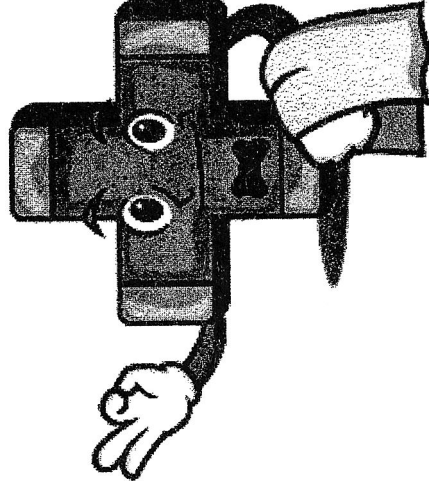
$$3\ 582 + 2\ 815$$

$$= (3\ 000 + 500 + 80 + 2) + (2\ 000 + 800 + 10 + 5)$$

$$= (3\ 000 + 2\ 000) + (500 + 800) + (80 + 10) + (2 + 5)$$

$$= 5\ 000 + 1\ 300 + 90 + 7$$

$$= 6\ 397$$



# SUBTRACTION

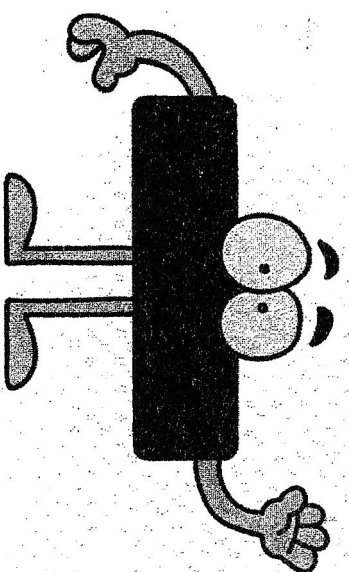
$$4\,583 - 2\,361$$

$$= (4\,000 + 500 + 80 + 3) - (2\,000 + 300 + 60 + 1)$$

$$= (4\,000 - 2\,000) + (500 - 300) + (80 - 60) + (3 - 1)$$

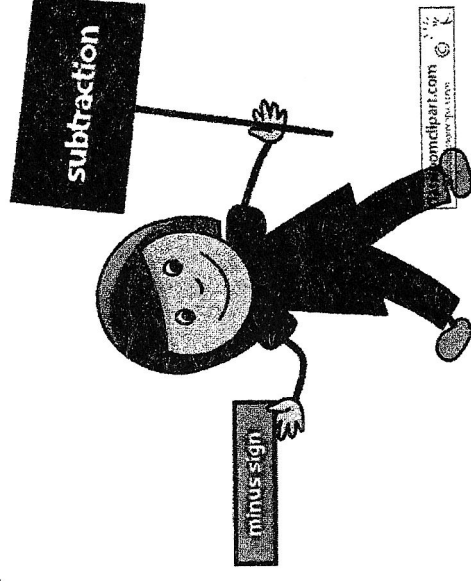
$$= 2\,000 + 200 + 20 + 2$$

$$= 2\,222$$



# SUBTRACTION

$$\begin{aligned} & 4\,693 - 3\,821 \\ &= (4\,000 + 600 + 90 + 3) - (3\,000 + 800 + 20 + 1) \\ & \quad \boxed{3\,000} \\ &= (\cancel{4\,000} - 3\,000) + (1\,600 - 800) + (90 - 20) + (3 - 1) \\ &= 0 + 800 + 70 + 2 \\ &= 872 \end{aligned}$$



# DIVISION

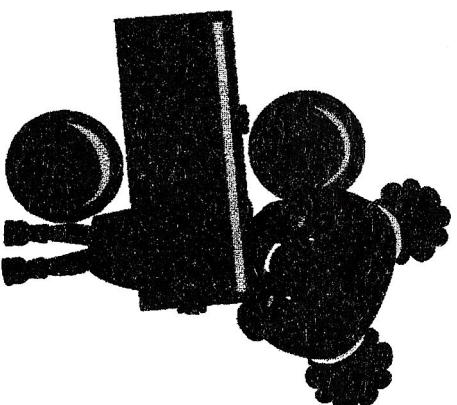
$$337 \div 3$$

$$= (300 + 30 + 7) \div 3$$

$$= (300 \div 3) + (30 \div 3) + (7 \div 3)$$

$$= 100 + 10 + 2 \text{ rem } 1$$

$$= 112 \text{ remainder } 1$$



## CLUE BOARD

$$1 \times 3 = 3$$

$$2 \times 3 = 6$$

$$3 \times 3 = 9$$

$$4 \times 3 = 12$$

$$5 \times 3 = 15$$

$$6 \times 3 = 18$$

$$7 \times 3 = 21$$

$$8 \times 3 = 24$$

$$9 \times 3 = 27$$

$$10 \times 3 = 30$$

**MATHEMATICS INTERVENTION**

|                  |  |                  |
|------------------|--|------------------|
| <b>245 + 124</b> |  | <b>368 + 130</b> |
| <b>349 - 127</b> |  | <b>543 - 131</b> |
| <b>564 - 372</b> |  | <b>762 - 275</b> |

# DIVISION

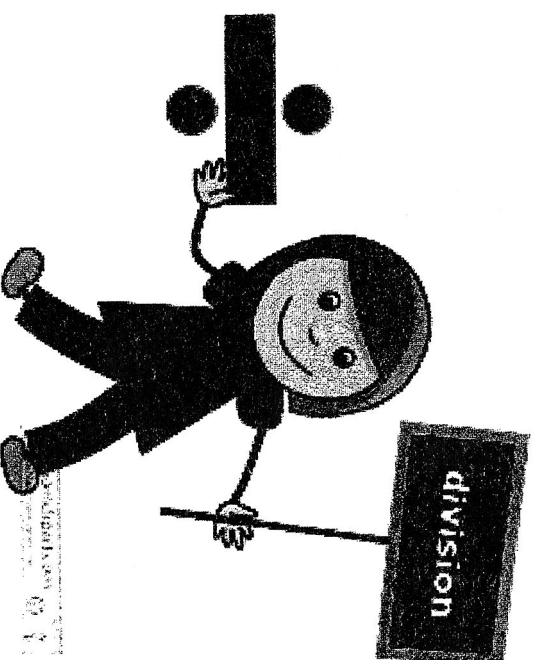
$$155 \div 5$$

$$= (100 + 50 + 5) \div 5$$

$$= (100 \div 5) + (50 \div 5) + (5 \div 5)$$

$$= 20 + 10 + 1$$

$$= 31$$



## CLUE BOARD

$$1 \times 5 = 5$$

$$2 \times 5 = 10$$

$$3 \times 5 = 15$$

$$4 \times 5 = 20$$

$$5 \times 5 = 25$$

$$6 \times 5 = 30$$

$$7 \times 5 = 35$$

$$8 \times 5 = 40$$

$$9 \times 5 = 45$$

$$10 \times 5 = 50$$

|           |           |
|-----------|-----------|
| 276 +97   | 153 + 684 |
| 769 - 521 | 860 - 206 |
| 964 - 725 | 831 - 542 |

# MATHEMATICS INTERVENTION

|           |           |
|-----------|-----------|
| 245 + 124 | 368 + 130 |
| 349 - 127 | 543 - 131 |
| 564 - 372 | 762 - 275 |

|           |           |
|-----------|-----------|
| 276 +97   | 153 + 684 |
| 769 - 521 | 860 - 206 |
| 964 - 725 | 831 - 542 |