# **ESE5023 Assignment 01 Report**

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## 1. Flowchart

依照Flowchart的流程编写的 Print\_values() 函数代码如下:

```
def Print_values(a, b, c):
    if a > b:
        if b > c:
            print('a: %s, b: %s, c: %s.' % (a, b, c))
        elif a > c:
            print('a: %s, c: %s, b: %s.' % (a, c, b))
        else:
            print('c: %s, a: %s, b: %s.' % (c, a, b))
    elif not b > c:
        print('c: %s, b: %s, a: %s.' % (c, b, a))
    return
```

### 测试:

```
if __name__ == "__main__":
    a = random.randint(0, 10000)
    b = random.randint(0, 10000)
    c = random.randint(0, 10000)
    print(a, b, c)
    Print_values(a, b, c)
```

### 输出结果1:

```
Run: PS1_1 ×

D:\ProgramData\Anaconda3\envs\tf38\python.exe "D:/ESE5023/ESE5023_Assignments_12132451/Assignment 01/PS1_1.py"

491 4757 1697

Process finished with exit code 0
```

可以看到该次实验的 abc 大小关系是 b>c>a,由于flowchart里没有对应的输出流程所以不输出结果

### 输出结果2:

```
Run: PS1_1 ×

D:\ProgramData\Anaconda3\envs\tf38\python.exe "D:/ESE5023/ESE5023_Assignments_12132451/Assignment 01/PS1_1.py"
6907 4101 7837
c: 7837, a: 6907, b: 4101.

Process finished with exit code 0
```

可以看到该次实验的 abc 大小关系是 c>a>b ,由于flowchart里有对应的输出流程所以输出了结果

## 2. Matrix multiplication

参数 rows, cols 分别表示要生成矩阵的行数与列数

返回值 matrix 表示生成的随机数值的矩阵

```
def matrix_gen(rows, cols):
   matrix = [[random.randint(0, 50) for i in range(cols)] for i in range(rows)]
   return matrix
```

接下来实现矩阵乘法函数

参数 m1, m2 分别表示进行乘法的两个矩阵, 如果行列不匹配应该报错

返回值 res\_m 表示矩阵乘法结果

```
def Matrix_multip(m1, m2):
    if len(m1[0]) != len(m2):
        raise ValueError("Matrix_multip: cols of m1 must be equal to rows of
m2!")
    res_m = matrix_gen(len(m1), len(m2[0]))
    for i in range(len(m1)):
        for j in range(len(m2[0])):
            res = 0
            for k in range(len(m2)):
                res += m1[i][k] * m2[k][j]
            res_m[i][j] = res

return res_m
```

测试:

```
if __name__ == "__main__":
    m1 = matrix_gen(5, 10)
    m2 = matrix_gen(10, 5)
    res = Matrix_multip(m1, m2)
    print('m1:')
    print(m1)
    print('m2:')
    print(m2)
    print('m1 * m2:')
    print(res)
```

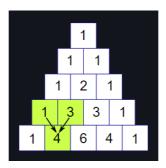
### 输出结果:

```
### DivProgramDuta\Anaconda3\envs\tf38\python.eve "D:/E555823/6555923_Assignments_12132451/Assignment 81/P51_2.py"

| DivProgramDuta\Anaconda3\envs\tf38\python.eve "D:/E555823/6556923_Assignments_12132451/Assignment 81/P51_2.py"
| DivProgramDuta\Anaconda3\envs\tf38\python.eve "D:/E55823/655823_Assignments_12132451/Assignment 81/P51_2.py"
| DivProgramDuta\Anaconda3\envs\tf38\python.eve "D:/E55823/65623_Assignments_12132451/Assignment 81/P51_2.py"
| DivProgramDuta\Anaconda3\envs\tf38\python.eve "D:/E55823/65623_Assignments_12132451/Assignment 81/P51_2.py"
| DivProgramDuta\Anaconda3\envs\tf38\python.eve "D:/E55823/65623_Assignments_12132451/Assignment 81/P51_2.py"
| DivProgramDuta\Anaconda3\envs\tf38\python.eve "D:/E55823/65623_Assignments_12132451/Assignments_12132451/Assignment 81/P51_2.py"
| DivProgramDuta\Anaconda3\envs\tf38\python.eve "D:/E55823/E55823_Assignments_12132451/Assignments_12132451/Assignments_12132451/Assignments_12132451/Assignments_12132451/Assignments_12132451/Assignments_12132451/Assignments_12132451/Assignments_12132451/Assignments_12132451/Assignments_12132451/Assignments_12132451/Assignments_12132451/Assignments_12132451/Assignments_12132451/Assignments_12132451/Assignments_12132451/Assignments_12132451/Assignments_12132451/Assignments_12132451/Assignments_12132451/Assignments_12132451/Assignments_12132451/Assignments_12132451/Assignments_12132451/Assignments_12132451/Assignments_12132451/Assignments_12132451/Assignments_12132451/Assignments_121
```

## 3. Pascal triangle

Pascal triangle 实例:



根据一定的数学知识可以得到第 k 行的 Pascal triangle 数值排列是

$$C_{k-1}^{i} \ (i=0,1,2,...,k-1)$$

据此可以编程如下:

```
import math

def combination(n, k):
    com = math.factorial(n) / (math.factorial(k) * math.factorial(n - k))
    return com

def Pascal_triangle(k):
    kthentry = []
    for i in range(k + 1):
        kthentry.append(int(combination(k, i)))
    print(kthentry)
```

## 测试:

```
if __name__ == "__main__":
    Pascal_triangle(100)
    Pascal_triangle(200)
```

## 输出结果:

```
[1, 100, 4950, 161700, 3921225, 75287520, 1192052400, 16007560800, 186087894300,
1902231808400, 17310309456440, 141629804643600, 1050421051106700,
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1192052400, 75287520, 3921225, 161700, 4950, 100, 1]
```

```
[1, 200, 19900, 1313400, 64684950, 2535650040, 82408626300, 2283896214600,
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```

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```
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```
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6107693672247476224, 387790074428411200, 22451004309013280, 1175445251780800,
55098996177225, 2283896214600, 82408626300, 2535650040, 64684950, 1313400,
19900, 200, 17
```

## 4. Add or double

本题的解决思路是将目标数字不断对 2 取模,每取一次模或者取模结果不为0,则步骤计数 +1,直到目标数字小于等于 1 为止

由此编写代码如下:

```
import math

def Least_moves(x):
    cnt = 0
    while x > 1:
        cnt += x % 2
        x = math.floor(x / 2)
        cnt += 1
    return cnt
```

测试:

```
if __name__ == "__main__":
    print(Least_moves(10))
    print(Least_moves(50))
    print(Least_moves(99))
```

## 输出结果:

```
4
7
9
```

## 验证如下:

```
1 -> 2 -> 4 -> 5 -> 10
1 -> 2 -> 3 -> 6 -> 12 -> 24 -> 25 -> 50
1 -> 2 -> 3 -> 6 -> 12 -> 24 -> 48 -> 49 -> 98 -> 99
```

# 5. Dynamic programming

本题使用穷举的方法, 在数字 123456789 之间可以插入 3 种操作符: 连接、+、-, 故总共有

$$3^8 = 6561$$

种可能

由此编写代码如下:

```
import copy
import math

def del_specified_value(list, value):
    list_res = copy.deepcopy(list)
    j = 0
    for i in range(len(list_res)):
        if list_res[j] == value:
            list_res.pop(j)
        else:
            j += 1
    return list_res
```

```
def segment(ops):
    numbers = [1, 2, 3, 4, 5, 6, 7, 8, 9]
    op_nums = [] # oprate numbers indeed
    i = 0
    flag = 0
    temp = 0
    while i < len(ops):
        if flag == 0:
            temp = numbers[i]
        if ops[i] == 0:
            flag = 1
            temp = temp * 10 + numbers[i + 1]
            if i == len(ops) - 1:
                op_nums.append(temp)
        else:
            flag = 0
            op_nums.append(temp)
            if i == len(ops) - 1:
                op_nums.append(numbers[i + 1])
        i += 1
    return op_nums
def compute(ops):
    op_nums = segment(ops)
    ops_cur = del_specified_value(ops, 0)
    res = op_nums[0]
    for index, op in enumerate(ops_cur):
        if op == 1:
            res += op_nums[index + 1]
        elif op == 2:
            res -= op_nums[index + 1]
    return res
def print_expression(ops, res):
    op_nums = segment(ops)
    ops_cur = del_specified_value(ops, 0)
    print(op_nums[0], end='')
    for index, op in enumerate(ops_cur):
        if op == 1:
            print(' + ', end='')
        elif op == 2:
            print(' - ', end='')
        print(op_nums[index + 1], end='')
    print(' = %s' % res)
def Find_expression(value):
    # ops represents each operator
    ops = [0, 0, 0, 0, 0, 0, 0, 0]
    cnt = 0
    loop = True
    while loop:
```

```
res = compute(ops)
if res == value:
    print_expression(ops, res)
    cnt += 1

for i in range(len(ops)):
    if ops[i] != 2:
        ops[i] += 1
        break
    else:
        ops[i] = 0
        if i == len(ops) - 1:
              loop = False

return cnt
```

测试:

```
if __name__ == "__main__":
    Find_expression(20)
```

### 输出结果:

统计目标结果1-100的数据,使用如下代码:

```
if __name__ == "__main__":
    table = []
    for i in range(1, 101):
        cnt = Find_expression(i)
        table.append(cnt)
    max\_temp = 0
    min_temp = math.inf
    max = []
    min = []
    for index, t in enumerate(table):
        if t > max_temp:
            max\_temp = t
            max.clear()
            max.append(index + 1)
        elif t == max_temp:
            max.append(index + 1)
        if t < min_temp:</pre>
            min\_temp = t
            min.clear()
            min.append(index + 1)
        elif t == min_temp:
```

```
min.append(index + 1)
print('Total_solutions: %s' % table)
print('max solutions: %s' % max)
print('max solutions count: %s' % table[max[0]-1])
print('min solutions: %s' % min)
print('min solutions count: %s' % table[min[0] - 1])
```

#### 输出结果:

```
Total_solutions: [26, 11, 18, 8, 21, 12, 17, 8, 22, 12, 21, 11, 16, 15, 20, 8, 17, 11, 20, 15, 16, 11, 23, 18, 13, 14, 21, 15, 19, 17, 14, 19, 19, 7, 14, 19, 19, 17, 18, 16, 17, 18, 10, 15, 26, 18, 15, 16, 12, 17, 19, 9, 17, 21, 16, 13, 14, 16, 17, 17, 11, 13, 22, 14, 13, 15, 15, 15, 17, 7, 14, 17, 15, 12, 13, 14, 14, 10, 9, 19, 12, 13, 13, 12, 11, 12, 6, 12, 14, 16, 13, 11, 11, 10, 11, 7, 9, 17, 11]

max solutions: [1, 45]

max solutions count: 26

min solutions count: 6
```

可以得到 solutions 最多的数字是 1 和 45, 共有 26 solutions

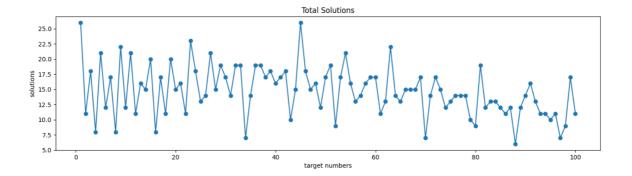
solutions 最少的数字是88,共有6 solutions

将 Total\_solutions 绘制成折线图

matplotlib 参考链接

numpy.linspace() 参考链接

```
def plotTotalSolutions(total_solutions):
    x = np.linspace(1, 100, num=100, dtype=int)
    print(x)
    y = total_solutions
    print(y)
    plt.subplot(2, 1, 1)
    plt.title('Total Solutions')
    plt.plot(x, y, 'o-')
    plt.xlabel('target numbers')
    plt.ylabel('solutions')
    plt.show()
```



1-100 所有的 solutions 如下表所示:

| 目标数字 | Solutions                             |
|------|---------------------------------------|
|      | 1 + 23 - 45 - 67 + 89 = 1             |
|      | 1 - 23 - 4 + 5 - 67 + 89 = 1          |
|      | 1 - 23 + 45 + 67 - 89 = 1             |
|      | 1 + 23 + 4 - 5 + 67 - 89 = 1          |
|      | 1 + 2 + 3 + 45 - 67 + 8 + 9 = 1       |
|      | 12 + 34 + 5 - 67 + 8 + 9 = 1          |
|      | 1 - 2 + 34 - 56 + 7 + 8 + 9 = 1       |
|      | 12 - 34 + 5 - 6 + 7 + 8 + 9 = 1       |
|      | 1 - 2 - 3 - 4 + 5 - 6 - 7 + 8 + 9 = 1 |
|      | 1 + 2 + 3 - 4 - 5 - 6 - 7 + 8 + 9 = 1 |
|      | 1 - 23 - 45 + 67 - 8 + 9 = 1          |
|      | 1 - 23 + 4 + 5 + 6 + 7 - 8 + 9 = 1    |
| 1    | 1 - 2 - 3 - 4 - 5 + 6 + 7 - 8 + 9 = 1 |
|      | 1 + 2 - 3 + 4 - 5 - 6 + 7 - 8 + 9 = 1 |
|      | 1 + 2 - 3 - 4 + 5 + 6 - 7 - 8 + 9 = 1 |
|      | 1 - 2 + 3 + 4 - 5 + 6 - 7 - 8 + 9 = 1 |
|      | 1 + 23 + 45 - 67 + 8 - 9 = 1          |
|      | 1 + 2 - 3 - 4 + 5 - 6 + 7 + 8 - 9 = 1 |
|      | 1 - 2 + 3 + 4 - 5 - 6 + 7 + 8 - 9 = 1 |
|      | 1 - 2 + 3 - 4 + 5 + 6 - 7 + 8 - 9 = 1 |
|      | 1 + 2 + 3 + 4 + 5 - 6 - 7 + 8 - 9 = 1 |
|      | 1 + 23 - 4 - 5 - 6 - 7 + 8 - 9 = 1    |
|      | 1 - 2 - 3 - 45 + 67 - 8 - 9 = 1       |
|      | 1 - 2 - 3 + 4 + 5 + 6 + 7 - 8 - 9 = 1 |
|      | 1 + 2 + 3 + 4 - 5 + 6 + 7 - 8 - 9 = 1 |
|      | 1 + 2 - 34 + 56 - 7 - 8 - 9 = 1       |
| 2    | 12 + 3 + 4 + 5 + 67 - 89 = 2          |
|      | 1 + 23 + 4 + 56 + 7 - 89 = 2          |
|      | 123 - 45 + 6 + 7 - 89 = 2             |
|      | 123 + 4 - 56 - 78 + 9 = 2             |
|      |                                       |

|   | 12 - 3 - 4 - 5 - 6 + 7 - 8 + 9 = 2    |
|---|---------------------------------------|
|   | 12 + 3 + 4 - 5 - 6 - 7 - 8 + 9 = 2    |
|   | 1 - 2 + 34 + 56 - 78 - 9 = 2          |
|   | 12 + 3 - 4 + 5 - 6 - 7 + 8 - 9 = 2    |
|   | 12 + 3 - 4 - 5 + 6 + 7 - 8 - 9 = 2    |
|   | 12 - 3 + 4 + 5 - 6 + 7 - 8 - 9 = 2    |
|   | 1 + 2 + 34 - 5 - 6 - 7 - 8 - 9 = 2    |
|   | 1 + 23 - 4 + 5 + 67 - 89 = 3          |
|   | 123 - 45 - 6 - 78 + 9 = 3             |
|   | 12 - 34 - 5 + 6 + 7 + 8 + 9 = 3       |
|   | 1 - 23 + 4 + 5 + 6 - 7 + 8 + 9 = 3    |
|   | 1 - 2 - 3 - 4 - 5 + 6 - 7 + 8 + 9 = 3 |
|   | 1+2-3+4-5-6-7+8+9=3                   |
|   | 1 + 23 + 45 - 67 - 8 + 9 = 3          |
|   | 1 + 2 - 3 - 4 + 5 - 6 + 7 - 8 + 9 = 3 |
| 3 | 1 - 2 + 3 + 4 - 5 - 6 + 7 - 8 + 9 = 3 |
| 3 | 1 - 2 + 3 - 4 + 5 + 6 - 7 - 8 + 9 = 3 |
|   | 1 + 2 + 3 + 4 + 5 - 6 - 7 - 8 + 9 = 3 |
|   | 1 + 23 - 4 - 5 - 6 - 7 - 8 + 9 = 3    |
|   | 1 + 2 - 3 - 4 - 5 + 6 + 7 + 8 - 9 = 3 |
|   | 1 - 2 + 3 - 4 + 5 - 6 + 7 + 8 - 9 = 3 |
|   | 1 - 2 - 3 + 4 + 5 + 6 - 7 + 8 - 9 = 3 |
|   | 1 + 2 + 3 + 4 - 5 + 6 - 7 + 8 - 9 = 3 |
|   | 1 + 2 + 3 - 4 + 5 + 6 + 7 - 8 - 9 = 3 |
|   | 1 + 23 + 4 + 5 - 6 - 7 - 8 - 9 = 3    |
| 4 | 12 - 34 - 56 - 7 + 89 = 4             |
|   | 12 - 3 + 45 - 67 + 8 + 9 = 4          |
|   | 1 + 2 - 34 + 5 + 6 + 7 + 8 + 9 = 4    |
|   | 12 - 3 - 4 - 5 - 6 - 7 + 8 + 9 = 4    |
|   | 12 + 3 - 4 + 5 - 6 - 7 - 8 + 9 = 4    |
|   | 12 + 3 - 4 - 5 + 6 - 7 + 8 - 9 = 4    |
|   |                                       |

|   | 12 - 3 + 4 + 5 - 6 - 7 + 8 - 9 = 4    |
|---|---------------------------------------|
|   | 12 - 3 + 4 - 5 + 6 + 7 - 8 - 9 = 4    |
|   | 12 - 34 + 5 - 67 + 89 = 5             |
|   | 1 - 2 - 34 - 56 + 7 + 89 = 5          |
|   | 1 - 23 - 4 - 56 + 78 + 9 = 5          |
|   | 1 + 2 + 34 - 56 + 7 + 8 + 9 = 5       |
|   | 1 - 23 + 4 + 5 - 6 + 7 + 8 + 9 = 5    |
|   | 1 - 2 - 3 - 4 - 5 - 6 + 7 + 8 + 9 = 5 |
|   | 1 + 2 - 3 - 4 + 5 - 6 - 7 + 8 + 9 = 5 |
|   | 1 - 2 + 3 + 4 - 5 - 6 - 7 + 8 + 9 = 5 |
|   | 1 + 2 - 3 - 4 - 5 + 6 + 7 - 8 + 9 = 5 |
|   | 1 - 2 + 3 - 4 + 5 - 6 + 7 - 8 + 9 = 5 |
| 5 | 1 - 2 - 3 + 4 + 5 + 6 - 7 - 8 + 9 = 5 |
|   | 1 + 2 + 3 + 4 - 5 + 6 - 7 - 8 + 9 = 5 |
|   | 1 - 2 - 3 - 4 - 56 + 78 - 9 = 5       |
|   | 1 - 2 + 3 - 4 - 5 + 6 + 7 + 8 - 9 = 5 |
|   | 1 - 2 - 3 + 4 + 5 - 6 + 7 + 8 - 9 = 5 |
|   | 1 + 2 + 3 + 4 - 5 - 6 + 7 + 8 - 9 = 5 |
|   | 1 + 2 + 3 - 4 + 5 + 6 - 7 + 8 - 9 = 5 |
|   | 1 + 2 - 3 - 45 + 67 - 8 - 9 = 5       |
|   | 1 + 2 - 3 + 4 + 5 + 6 + 7 - 8 - 9 = 5 |
|   | 1 - 23 + 45 + 6 - 7 - 8 - 9 = 5       |
|   | 1 + 23 + 4 - 5 + 6 - 7 - 8 - 9 = 5    |
| 6 | 1 - 2 + 34 - 5 + 67 - 89 = 6          |
|   | 12 + 34 + 56 - 7 - 89 = 6             |
|   | 12 + 3 + 4 + 56 - 78 + 9 = 6          |
|   | 1 + 23 + 45 + 6 - 78 + 9 = 6          |
|   | 12 + 3 - 4 - 5 + 6 - 7 - 8 + 9 = 6    |
|   | 12 - 3 + 4 + 5 - 6 - 7 - 8 + 9 = 6    |
|   | 1 + 2 + 34 + 56 - 78 - 9 = 6          |
|   | 12 + 3 - 4 - 5 - 6 + 7 + 8 - 9 = 6    |
|   |                                       |

|   | 12 - 3 + 4 - 5 + 6 - 7 + 8 - 9 = 6    |
|---|---------------------------------------|
|   | 12 - 3 - 4 + 5 + 6 + 7 - 8 - 9 = 6    |
|   | 1 - 23 - 4 + 56 - 7 - 8 - 9 = 6       |
|   | 12 + 3 + 4 + 5 + 6 - 7 - 8 - 9 = 6    |
|   | 1 - 2 + 34 + 56 + 7 - 89 = 7          |
|   | 1 + 23 - 4 + 56 - 78 + 9 = 7          |
|   | 1 - 23 + 4 - 5 + 6 + 7 + 8 + 9 = 7    |
|   | 1 + 2 - 3 - 4 - 5 + 6 - 7 + 8 + 9 = 7 |
|   | 1 - 2 + 3 - 4 + 5 - 6 - 7 + 8 + 9 = 7 |
|   | 1 - 2 + 3 - 4 - 5 + 6 + 7 - 8 + 9 = 7 |
|   | 1 - 2 - 3 + 4 + 5 - 6 + 7 - 8 + 9 = 7 |
|   | 1 + 2 + 3 + 4 - 5 - 6 + 7 - 8 + 9 = 7 |
| 7 | 1 + 2 + 3 - 4 + 5 + 6 - 7 - 8 + 9 = 7 |
|   | 1 - 2 - 3 + 4 - 5 + 6 + 7 + 8 - 9 = 7 |
|   | 1 + 2 + 3 - 4 + 5 - 6 + 7 + 8 - 9 = 7 |
|   | 1 + 2 - 3 + 4 + 5 + 6 - 7 + 8 - 9 = 7 |
|   | 1 - 2 + 3 - 45 + 67 - 8 - 9 = 7       |
|   | 1 - 2 + 3 + 4 + 5 + 6 + 7 - 8 - 9 = 7 |
|   | 1 - 23 + 45 - 6 + 7 - 8 - 9 = 7       |
|   | 1 + 23 + 4 - 5 - 6 + 7 - 8 - 9 = 7    |
|   | 1 + 23 - 4 + 5 + 6 - 7 - 8 - 9 = 7    |
|   | 1 - 23 + 4 - 56 - 7 + 89 = 8          |
|   | 12 + 3 - 4 - 5 - 6 + 7 - 8 + 9 = 8    |
|   | 12 - 3 + 4 - 5 + 6 - 7 - 8 + 9 = 8    |
| 8 | 1 - 23 - 45 + 6 + 78 - 9 = 8          |
|   | 12 - 3 + 4 - 5 - 6 + 7 + 8 - 9 = 8    |
|   | 12 - 3 - 4 + 5 + 6 - 7 + 8 - 9 = 8    |
|   | 12 + 3 + 4 + 5 - 6 + 7 - 8 - 9 = 8    |
|   | 1 - 2 + 34 + 5 - 6 - 7 - 8 - 9 = 8    |
| 9 | 1 - 23 + 4 + 5 - 67 + 89 = 9          |
|   | 1 - 2 - 3 - 4 - 5 - 67 + 89 = 9       |
|   |                                       |

|    | 1 + 2 - 34 - 56 + 7 + 89 = 9          |
|----|---------------------------------------|
|    | 1 - 23 - 45 - 6 - 7 + 89 = 9          |
|    | 12 - 34 - 56 + 78 + 9 = 9             |
|    | 1 + 23 - 45 + 6 + 7 + 8 + 9 = 9       |
|    | 1 - 23 - 4 + 5 + 6 + 7 + 8 + 9 = 9    |
|    | 1 + 2 - 3 - 4 - 5 - 6 + 7 + 8 + 9 = 9 |
|    | 1 - 2 + 3 - 4 - 5 + 6 - 7 + 8 + 9 = 9 |
|    | 1 - 2 - 3 + 4 + 5 - 6 - 7 + 8 + 9 = 9 |
|    | 1 + 2 + 3 + 4 - 5 - 6 - 7 + 8 + 9 = 9 |
|    | 1 - 2 - 3 + 4 - 5 + 6 + 7 - 8 + 9 = 9 |
|    | 1 + 2 + 3 - 4 + 5 - 6 + 7 - 8 + 9 = 9 |
|    | 1+2-3+4+5+6-7-8+9=9                   |
|    | 1 + 2 - 3 - 4 - 56 + 78 - 9 = 9       |
|    | 1 - 2 - 3 - 4 + 5 + 6 + 7 + 8 - 9 = 9 |
|    | 1 + 2 + 3 - 4 - 5 + 6 + 7 + 8 - 9 = 9 |
|    | 1 + 2 - 3 + 4 + 5 - 6 + 7 + 8 - 9 = 9 |
|    | 1 - 2 + 3 + 4 + 5 + 6 - 7 + 8 - 9 = 9 |
|    | 1 - 23 + 45 - 6 - 7 + 8 - 9 = 9       |
|    | 1 + 23 + 4 - 5 - 6 - 7 + 8 - 9 = 9    |
|    | 1 + 23 - 4 + 5 - 6 + 7 - 8 - 9 = 9    |
| 10 | 1 + 2 + 34 - 5 + 67 - 89 = 10         |
|    | 12 + 3 + 45 - 67 + 8 + 9 = 10         |
|    | 12 + 3 - 4 - 5 - 6 - 7 + 8 + 9 = 10   |
|    | 12 - 3 + 4 - 5 - 6 + 7 - 8 + 9 = 10   |
|    | 12 - 3 - 4 + 5 + 6 - 7 - 8 + 9 = 10   |
|    | 123 - 45 - 67 + 8 - 9 = 10            |
|    | 12 - 3 - 4 + 5 - 6 + 7 + 8 - 9 = 10   |
|    | 12 + 3 + 4 + 5 - 6 - 7 + 8 - 9 = 10   |
|    | 1 - 2 - 34 - 5 + 67 - 8 - 9 = 10      |
|    | 12 + 3 + 4 - 5 + 6 + 7 - 8 - 9 = 10   |
|    | 12 - 34 + 56 - 7 - 8 - 9 = 10         |
|    |                                       |

|    | 1 - 2 + 34 - 5 + 6 - 7 - 8 - 9 = 10    |
|----|--|
|    | 1 + 23 + 4 + 5 + 67 - 89 = 11          |
|    | 1 + 2 + 34 + 56 + 7 - 89 = 11          |
|    | 1 - 2 + 3 - 4 - 5 - 6 + 7 + 8 + 9 = 11 |
|    | 1 - 2 - 3 + 4 - 5 + 6 - 7 + 8 + 9 = 11 |
|    | 1 + 2 + 3 - 4 + 5 - 6 - 7 + 8 + 9 = 11 |
|    | 1 - 2 - 3 - 4 + 5 + 6 + 7 - 8 + 9 = 11 |
|    | 1 + 2 + 3 - 4 - 5 + 6 + 7 - 8 + 9 = 11 |
|    | 1 + 2 - 3 + 4 + 5 - 6 + 7 - 8 + 9 = 11 |
|    | 1 - 2 + 3 + 4 + 5 + 6 - 7 - 8 + 9 = 11 |
|    | 1 - 23 + 45 - 6 - 7 - 8 + 9 = 11       |
| 11 | 1 + 23 + 4 - 5 - 6 - 7 - 8 + 9 = 11    |
|    | 1 - 2 + 3 - 4 - 56 + 78 - 9 = 11       |
|    | 1 + 2 - 3 + 4 - 5 + 6 + 7 + 8 - 9 = 11 |
|    | 1 - 2 + 3 + 4 + 5 - 6 + 7 + 8 - 9 = 11 |
|    | 1 + 23 - 4 + 5 - 6 - 7 + 8 - 9 = 11    |
|    | 1 + 2 + 3 - 45 + 67 - 8 - 9 = 11       |
|    | 1 - 2 - 34 + 56 + 7 - 8 - 9 = 11       |
|    | 1 + 2 + 3 + 4 + 5 + 6 + 7 - 8 - 9 = 11 |
|    | 1 + 23 - 4 - 5 + 6 + 7 - 8 - 9 = 11    |
|    | 1 - 2 - 3 + 45 - 6 - 7 - 8 - 9 = 11    |
|    | 12 + 34 - 5 - 6 - 7 - 8 - 9 = 11       |
| 12 | 123 + 45 - 67 - 89 = 12                |
|    | 123 - 4 - 5 - 6 - 7 - 89 = 12          |
|    | 12 - 3 + 4 - 5 - 6 - 7 + 8 + 9 = 12    |
|    | 123 - 45 - 67 - 8 + 9 = 12             |
|    | 12 - 3 - 4 + 5 - 6 + 7 - 8 + 9 = 12    |
|    | 12 + 3 + 4 + 5 - 6 - 7 - 8 + 9 = 12    |
|    | 12 - 3 - 4 - 5 + 6 + 7 + 8 - 9 = 12    |
|    | 12 + 3 + 4 - 5 + 6 - 7 + 8 - 9 = 12    |
|    | 12 + 3 - 4 + 5 + 6 + 7 - 8 - 9 = 12    |
|    |  |

|    | 1 - 2 + 34 - 5 - 6 + 7 - 8 - 9 = 12    |
|----|--|
|    | 1 + 2 + 34 + 5 - 6 - 7 - 8 - 9 = 12    |
|    | 1 + 2 - 3 - 4 - 5 - 67 + 89 = 13       |
|    | 1 - 23 + 4 - 56 + 78 + 9 = 13          |
|    | 12 - 34 + 5 + 6 + 7 + 8 + 9 = 13       |
|    | 1 - 2 - 3 + 4 - 5 - 6 + 7 + 8 + 9 = 13 |
|    | 1 - 2 - 3 - 4 + 5 + 6 - 7 + 8 + 9 = 13 |
|    | 1 + 2 + 3 - 4 - 5 + 6 - 7 + 8 + 9 = 13 |
|    | 1 + 2 - 3 + 4 + 5 - 6 - 7 + 8 + 9 = 13 |
| 43 | 1 + 2 - 3 + 4 - 5 + 6 + 7 - 8 + 9 = 13 |
| 13 | 1 - 2 + 3 + 4 + 5 - 6 + 7 - 8 + 9 = 13 |
|    | 1 + 23 - 4 + 5 - 6 - 7 - 8 + 9 = 13    |
|    | 1 - 2 - 3 + 4 - 56 + 78 - 9 = 13       |
|    | 1 + 2 - 3 - 4 + 5 + 6 + 7 + 8 - 9 = 13 |
|    | 1 - 2 + 3 + 4 - 5 + 6 + 7 + 8 - 9 = 13 |
|    | 1 - 2 - 34 + 56 - 7 + 8 - 9 = 13       |
|    | 1 + 2 + 3 + 4 + 5 + 6 - 7 + 8 - 9 = 13 |
|    | 1 + 23 - 4 - 5 + 6 - 7 + 8 - 9 = 13    |
| 14 | 1 - 23 - 4 - 56 + 7 + 89 = 14          |
|    | 1 - 23 - 45 - 6 + 78 + 9 = 14          |
|    | 12 + 34 - 56 + 7 + 8 + 9 = 14          |
|    | 12 - 3 - 4 + 5 - 6 - 7 + 8 + 9 = 14    |
|    | 12 - 3 - 4 - 5 + 6 + 7 - 8 + 9 = 14    |
|    | 12 + 3 + 4 - 5 + 6 - 7 - 8 + 9 = 14    |
|    | 1 - 2 - 3 - 45 - 6 + 78 - 9 = 14       |
|    | 12 + 3 + 4 - 5 - 6 + 7 + 8 - 9 = 14    |
|    | 12 + 3 - 4 + 5 + 6 - 7 + 8 - 9 = 14    |
|    | 1 - 2 + 34 - 5 - 6 - 7 + 8 - 9 = 14    |
|    | 12 - 3 - 45 + 67 - 8 - 9 = 14          |
|    | 1 + 2 - 34 - 5 + 67 - 8 - 9 = 14       |
|    | 12 - 3 + 4 + 5 + 6 + 7 - 8 - 9 = 14    |
|    |  |

|    | 1 - 23 + 4 + 56 - 7 - 8 - 9 = 14       |
|----|--|
|    | 1 + 2 + 34 - 5 + 6 - 7 - 8 - 9 = 14    |
|    | 1 - 2 + 3 - 4 - 5 - 67 + 89 = 15       |
|    | 1 + 23 + 4 + 56 - 78 + 9 = 15          |
|    | 123 - 45 + 6 - 78 + 9 = 15             |
|    | 1 - 2 - 3 - 4 + 5 - 6 + 7 + 8 + 9 = 15 |
|    | 1 + 2 + 3 - 4 - 5 - 6 + 7 + 8 + 9 = 15 |
|    | 1 + 2 - 3 + 4 - 5 + 6 - 7 + 8 + 9 = 15 |
|    | 1 - 2 + 3 + 4 + 5 - 6 - 7 + 8 + 9 = 15 |
|    | 1 + 2 - 3 - 4 + 5 + 6 + 7 - 8 + 9 = 15 |
|    | 1 - 2 + 3 + 4 - 5 + 6 + 7 - 8 + 9 = 15 |
| 45 | 1 - 2 - 34 + 56 - 7 - 8 + 9 = 15       |
| 15 | 1 + 2 + 3 + 4 + 5 + 6 - 7 - 8 + 9 = 15 |
|    | 1 + 23 - 4 - 5 + 6 - 7 - 8 + 9 = 15    |
|    | 1 + 2 + 3 - 4 - 56 + 78 - 9 = 15       |
|    | 12 + 34 + 56 - 78 - 9 = 15             |
|    | 1 - 2 + 3 - 4 + 5 + 6 + 7 + 8 - 9 = 15 |
|    | 1 + 2 + 3 + 4 + 5 - 6 + 7 + 8 - 9 = 15 |
|    | 1 + 23 - 4 - 5 - 6 + 7 + 8 - 9 = 15    |
|    | 1 + 2 - 34 + 56 + 7 - 8 - 9 = 15       |
|    | 1 + 23 + 4 + 5 + 6 - 7 - 8 - 9 = 15    |
|    | 1 + 2 - 3 + 45 - 6 - 7 - 8 - 9 = 15    |
|    | 1 - 2 + 34 + 5 + 67 - 89 = 16          |
|    | 12 - 3 - 4 - 5 + 6 - 7 + 8 + 9 = 16    |
|    | 12 + 3 + 4 - 5 - 6 + 7 - 8 + 9 = 16    |
| 16 | 12 + 3 - 4 + 5 + 6 - 7 - 8 + 9 = 16    |
| 16 | 1 - 2 + 34 - 5 - 6 - 7 - 8 + 9 = 16    |
|    | 12 + 3 - 4 + 5 - 6 + 7 + 8 - 9 = 16    |
|    | 12 - 3 + 4 + 5 + 6 - 7 + 8 - 9 = 16    |
|    | 1 + 2 + 34 - 5 - 6 + 7 - 8 - 9 = 16    |
| 17 | 1 - 2 - 3 + 4 - 5 - 67 + 89 = 17       |
|    |  |

|    | 1 - 23 - 45 + 67 + 8 + 9 = 17          |
|----|--|
|    | 1 - 23 + 4 + 5 + 6 + 7 + 8 + 9 = 17    |
|    | 1 - 2 - 3 - 4 - 5 + 6 + 7 + 8 + 9 = 17 |
|    | 1 + 2 - 3 + 4 - 5 - 6 + 7 + 8 + 9 = 17 |
|    | 1 + 2 - 3 - 4 + 5 + 6 - 7 + 8 + 9 = 17 |
|    | 1 - 2 + 3 + 4 - 5 + 6 - 7 + 8 + 9 = 17 |
|    | 1 - 2 + 3 - 4 + 5 + 6 + 7 - 8 + 9 = 17 |
|    | 1 + 2 + 3 + 4 + 5 - 6 + 7 - 8 + 9 = 17 |
|    | 1 + 23 - 4 - 5 - 6 + 7 - 8 + 9 = 17    |
|    | 1 + 2 - 3 + 4 - 56 + 78 - 9 = 17       |
|    | 1 - 2 - 3 - 45 + 67 + 8 - 9 = 17       |
|    | 1 - 2 - 3 + 4 + 5 + 6 + 7 + 8 - 9 = 17 |
|    | 1 + 2 + 3 + 4 - 5 + 6 + 7 + 8 - 9 = 17 |
|    | 1 + 2 - 34 + 56 - 7 + 8 - 9 = 17       |
|    | 1 + 23 + 4 + 5 - 6 + 7 - 8 - 9 = 17    |
|    | 1 - 2 + 3 + 45 - 6 - 7 - 8 - 9 = 17    |
|    | 12 - 34 - 56 + 7 + 89 = 18             |
|    | 1 - 2 - 3 - 4 - 56 - 7 + 89 = 18       |
|    | 12 - 3 - 4 - 5 - 6 + 7 + 8 + 9 = 18    |
|    | 12 + 3 + 4 - 5 - 6 - 7 + 8 + 9 = 18    |
|    | 12 + 3 - 4 + 5 - 6 + 7 - 8 + 9 = 18    |
| 18 | 12 - 3 + 4 + 5 + 6 - 7 - 8 + 9 = 18    |
|    | 12 - 3 - 4 - 56 + 78 - 9 = 18          |
|    | 1 + 2 - 3 - 45 - 6 + 78 - 9 = 18       |
|    | 12 + 3 - 4 - 5 + 6 + 7 + 8 - 9 = 18    |
|    | 12 - 3 + 4 + 5 - 6 + 7 + 8 - 9 = 18    |
|    | 1 + 2 + 34 - 5 - 6 - 7 + 8 - 9 = 18    |
| 19 | 1 - 2 - 3 - 4 + 5 - 67 + 89 = 19       |
|    | 1 + 2 + 3 - 4 - 5 - 67 + 89 = 19       |
|    | 1 - 2 - 3 + 45 + 67 - 89 = 19          |
|    | 12 + 34 - 5 + 67 - 89 = 19             |
|    |  |

|    | 1 + 23 + 45 - 67 + 8 + 9 = 19          |
|----|--|
|    | 1 + 2 - 3 - 4 + 5 - 6 + 7 + 8 + 9 = 19 |
|    | 1 - 2 + 3 + 4 - 5 - 6 + 7 + 8 + 9 = 19 |
|    | 1 - 2 + 3 - 4 + 5 + 6 - 7 + 8 + 9 = 19 |
|    | 1 + 2 + 3 + 4 + 5 - 6 - 7 + 8 + 9 = 19 |
|    | 1 + 23 - 4 - 5 - 6 - 7 + 8 + 9 = 19    |
|    | 1 - 2 - 3 - 45 + 67 - 8 + 9 = 19       |
|    | 1 - 2 - 3 + 4 + 5 + 6 + 7 - 8 + 9 = 19 |
|    | 1 + 2 + 3 + 4 - 5 + 6 + 7 - 8 + 9 = 19 |
|    | 1 + 2 - 34 + 56 - 7 - 8 + 9 = 19       |
|    | 1 - 2 + 3 + 4 - 56 + 78 - 9 = 19       |
|    | 1 + 2 + 3 - 4 + 5 + 6 + 7 + 8 - 9 = 19 |
|    | 1 + 23 + 4 + 5 - 6 - 7 + 8 - 9 = 19    |
|    | 1 - 23 - 4 - 5 + 67 - 8 - 9 = 19       |
|    | 1 - 23 + 45 + 6 + 7 - 8 - 9 = 19       |
|    | 1 + 23 + 4 - 5 + 6 + 7 - 8 - 9 = 19    |
|    | 1 + 2 + 34 + 5 + 67 - 89 = 20          |
|    | 12 + 34 + 56 + 7 - 89 = 20             |
|    | 123 + 4 - 5 - 6 - 7 - 89 = 20          |
|    | 1 - 2 + 34 + 56 - 78 + 9 = 20          |
|    | 12 + 3 - 4 + 5 - 6 - 7 + 8 + 9 = 20    |
|    | 12 + 3 - 4 - 5 + 6 + 7 - 8 + 9 = 20    |
|    | 12 - 3 + 4 + 5 - 6 + 7 - 8 + 9 = 20    |
| 20 | 1 + 2 + 34 - 5 - 6 - 7 - 8 + 9 = 20    |
|    | 1 - 2 + 3 - 45 - 6 + 78 - 9 = 20       |
|    | 12 - 3 + 4 - 5 + 6 + 7 + 8 - 9 = 20    |
|    | 12 + 3 - 45 + 67 - 8 - 9 = 20          |
|    | 1 - 2 - 34 + 5 + 67 - 8 - 9 = 20       |
|    | 1 - 23 - 4 + 56 + 7 - 8 - 9 = 20       |
|    | 12 + 3 + 4 + 5 + 6 + 7 - 8 - 9 = 20    |
|    | 1 - 2 + 34 + 5 + 6 - 7 - 8 - 9 = 20    |
|    |  |

| I. |  |
|----|--|
| 21 | 1 + 2 - 3 + 4 - 5 - 67 + 89 = 21       |
|    | 1 - 23 - 45 + 6 - 7 + 89 = 21          |
|    | 1 + 2 - 3 - 4 - 5 + 6 + 7 + 8 + 9 = 21 |
|    | 1 - 2 + 3 - 4 + 5 - 6 + 7 + 8 + 9 = 21 |
|    | 1 - 2 - 3 + 4 + 5 + 6 - 7 + 8 + 9 = 21 |
|    | 1 + 2 + 3 + 4 - 5 + 6 - 7 + 8 + 9 = 21 |
|    | 1 + 2 + 3 - 4 + 5 + 6 + 7 - 8 + 9 = 21 |
|    | 1 + 23 + 4 + 5 - 6 - 7 - 8 + 9 = 21    |
|    | 123 - 4 - 5 - 6 - 78 - 9 = 21          |
|    | 1 + 2 - 3 - 45 + 67 + 8 - 9 = 21       |
|    | 1 + 2 - 3 + 4 + 5 + 6 + 7 + 8 - 9 = 21 |
|    | 1 - 23 + 45 + 6 - 7 + 8 - 9 = 21       |
|    | 1 + 23 + 4 - 5 + 6 - 7 + 8 - 9 = 21    |
|    | 1 + 23 - 4 + 5 + 6 + 7 - 8 - 9 = 21    |
|    | 1 + 2 + 3 + 45 - 6 - 7 - 8 - 9 = 21    |
|    | 12 + 34 + 5 - 6 - 7 - 8 - 9 = 21       |
|    | 12 - 3 - 4 - 5 - 67 + 89 = 22          |
|    | 1 - 23 + 4 - 56 + 7 + 89 = 22          |
|    | 1 + 2 - 3 - 4 - 56 - 7 + 89 = 22       |
|    | 123 - 4 + 5 - 6 - 7 - 89 = 22          |
|    | 12 + 3 - 4 - 5 + 6 - 7 + 8 + 9 = 22    |
| 22 | 12 - 3 + 4 + 5 - 6 - 7 + 8 + 9 = 22    |
|    | 12 - 3 + 4 - 5 + 6 + 7 - 8 + 9 = 22    |
|    | 12 - 3 - 4 + 5 + 6 + 7 + 8 - 9 = 22    |
|    | 1 - 23 - 4 + 56 - 7 + 8 - 9 = 22       |
|    | 12 + 3 + 4 + 5 + 6 - 7 + 8 - 9 = 22    |
|    | 1 - 2 + 34 + 5 - 6 + 7 - 8 - 9 = 22    |
| 23 | 1 + 2 - 3 - 4 + 5 - 67 + 89 = 23       |
|    | 1 - 2 + 3 + 4 - 5 - 67 + 89 = 23       |
|    | 1 - 23 - 45 - 6 + 7 + 89 = 23          |
|    | 1 + 2 - 3 + 45 + 67 - 89 = 23          |
|    |  |

|    | 1 - 2 - 3 - 4 - 56 + 78 + 9 = 23       |
|----|--|
|    | 1 - 2 + 3 - 4 - 5 + 6 + 7 + 8 + 9 = 23 |
|    | 1 - 2 - 3 + 4 + 5 - 6 + 7 + 8 + 9 = 23 |
|    | 1 + 2 + 3 + 4 - 5 - 6 + 7 + 8 + 9 = 23 |
|    | 1 + 2 + 3 - 4 + 5 + 6 - 7 + 8 + 9 = 23 |
|    | 1 + 2 - 3 - 45 + 67 - 8 + 9 = 23       |
|    | 1 + 2 - 3 + 4 + 5 + 6 + 7 - 8 + 9 = 23 |
|    | 1 - 23 + 45 + 6 - 7 - 8 + 9 = 23       |
|    | 1 + 23 + 4 - 5 + 6 - 7 - 8 + 9 = 23    |
|    | 1 + 2 + 3 + 4 - 56 + 78 - 9 = 23       |
|    | 1 - 2 - 34 - 5 - 6 + 78 - 9 = 23       |
|    | 1 - 2 + 3 - 45 + 67 + 8 - 9 = 23       |
|    | 1 - 2 + 3 + 4 + 5 + 6 + 7 + 8 - 9 = 23 |
|    | 1 - 23 + 45 - 6 + 7 + 8 - 9 = 23       |
|    | 1 + 23 + 4 - 5 - 6 + 7 + 8 - 9 = 23    |
|    | 1 + 23 - 4 + 5 + 6 - 7 + 8 - 9 = 23    |
|    | 12 - 34 - 5 + 67 - 8 - 9 = 23          |
|    | 1 - 2 - 3 + 45 + 6 - 7 - 8 - 9 = 23    |
|    | 12 + 34 - 5 + 6 - 7 - 8 - 9 = 23       |
| 24 | 1 - 2 + 3 - 4 - 56 - 7 + 89 = 24       |
|    | 123 - 4 - 5 + 6 - 7 - 89 = 24          |
|    | 1 + 2 + 34 + 56 - 78 + 9 = 24          |
|    | 12 + 3 - 4 - 5 - 6 + 7 + 8 + 9 = 24    |
|    | 12 - 3 + 4 - 5 + 6 - 7 + 8 + 9 = 24    |
|    | 12 - 3 - 4 + 5 + 6 + 7 - 8 + 9 = 24    |
|    | 1 - 23 - 4 + 56 - 7 - 8 + 9 = 24       |
|    | 12 + 3 + 4 + 5 + 6 - 7 - 8 + 9 = 24    |
|    | 12 + 3 - 4 - 56 + 78 - 9 = 24          |
|    | 1 + 2 + 3 - 45 - 6 + 78 - 9 = 24       |
|    | 12 + 3 + 4 + 5 - 6 + 7 + 8 - 9 = 24    |
|    | 1 - 2 + 34 + 5 - 6 - 7 + 8 - 9 = 24    |
|    |  |

|    | 1 + 2 - 34 + 5 + 67 - 8 - 9 = 24       |
|----|--|
|    | 12 - 34 + 56 + 7 - 8 - 9 = 24          |
|    | 1 - 2 + 34 - 5 + 6 + 7 - 8 - 9 = 24    |
|    | 1 - 2 - 3 - 4 + 56 - 7 - 8 - 9 = 24    |
|    | 1 + 2 + 34 + 5 + 6 - 7 - 8 - 9 = 24    |
|    | 12 - 3 + 45 - 6 - 7 - 8 - 9 = 24       |
|    | 1 - 2 + 3 - 4 + 5 - 67 + 89 = 25       |
|    | 1 - 2 + 3 + 45 + 67 - 89 = 25          |
|    | 1 - 2 - 3 + 4 - 5 + 6 + 7 + 8 + 9 = 25 |
|    | 1 + 2 + 3 - 4 + 5 - 6 + 7 + 8 + 9 = 25 |
|    | 1 + 2 - 3 + 4 + 5 + 6 - 7 + 8 + 9 = 25 |
|    | 1 - 2 + 3 - 45 + 67 - 8 + 9 = 25       |
| 25 | 1 - 2 + 3 + 4 + 5 + 6 + 7 - 8 + 9 = 25 |
|    | 1 - 23 + 45 - 6 + 7 - 8 + 9 = 25       |
|    | 1 + 23 + 4 - 5 - 6 + 7 - 8 + 9 = 25    |
|    | 1 + 23 - 4 + 5 + 6 - 7 - 8 + 9 = 25    |
|    | 1 + 23 - 4 + 5 - 6 + 7 + 8 - 9 = 25    |
|    | 1 - 2 - 3 + 45 - 6 + 7 - 8 - 9 = 25    |
|    | 12 + 34 - 5 - 6 + 7 - 8 - 9 = 25       |
| 26 | 1 - 2 - 3 + 4 - 56 - 7 + 89 = 26       |
|    | 123 - 4 - 5 - 6 + 7 - 89 = 26          |
|    | 1 - 23 - 45 + 6 + 78 + 9 = 26          |
|    | 12 - 3 + 4 - 5 - 6 + 7 + 8 + 9 = 26    |
|    | 12 - 3 - 4 + 5 + 6 - 7 + 8 + 9 = 26    |
|    | 12 + 3 + 4 + 5 - 6 + 7 - 8 + 9 = 26    |
|    | 1 - 2 + 34 + 5 - 6 - 7 - 8 + 9 = 26    |
|    | 12 - 3 + 4 - 56 + 78 - 9 = 26          |
|    | 1 - 2 - 3 - 45 + 6 + 78 - 9 = 26       |
|    | 1 - 2 - 34 - 5 + 67 + 8 - 9 = 26       |
|    | 12 + 3 + 4 - 5 + 6 + 7 + 8 - 9 = 26    |
|    | 12 - 34 + 56 - 7 + 8 - 9 = 26          |
|    |  |

|    | 1 - 2 + 34 - 5 + 6 - 7 + 8 - 9 = 26    |
|----|--|
|    | 1 + 2 + 34 + 5 - 6 + 7 - 8 - 9 = 26    |
|    | 1 - 2 - 3 + 4 + 5 - 67 + 89 = 27       |
|    | 1 + 2 + 3 + 4 - 5 - 67 + 89 = 27       |
|    | 1 - 2 - 3 - 45 - 6 - 7 + 89 = 27       |
|    | 1 + 2 - 3 - 4 - 56 + 78 + 9 = 27       |
|    | 1 - 2 - 3 - 4 + 5 + 6 + 7 + 8 + 9 = 27 |
|    | 1 + 2 + 3 - 4 - 5 + 6 + 7 + 8 + 9 = 27 |
|    | 1 + 2 - 3 + 4 + 5 - 6 + 7 + 8 + 9 = 27 |
|    | 1 - 2 + 3 + 4 + 5 + 6 - 7 + 8 + 9 = 27 |
|    | 1 - 23 + 45 - 6 - 7 + 8 + 9 = 27       |
|    | 1 + 23 + 4 - 5 - 6 - 7 + 8 + 9 = 27    |
| 27 | 1 + 23 - 4 + 5 - 6 + 7 - 8 + 9 = 27    |
|    | 12 - 3 - 45 - 6 + 78 - 9 = 27          |
|    | 1 + 2 - 34 - 5 - 6 + 78 - 9 = 27       |
|    | 1 + 2 + 3 - 45 + 67 + 8 - 9 = 27       |
|    | 1 - 2 - 34 + 56 + 7 + 8 - 9 = 27       |
|    | 1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 - 9 = 27 |
|    | 1 + 23 - 4 - 5 + 6 + 7 + 8 - 9 = 27    |
|    | 1 - 2 - 3 + 45 - 6 - 7 + 8 - 9 = 27    |
|    | 12 + 34 - 5 - 6 - 7 + 8 - 9 = 27       |
|    | 1 - 23 + 4 - 5 + 67 - 8 - 9 = 27       |
|    | 1 + 2 - 3 + 45 + 6 - 7 - 8 - 9 = 27    |
| 28 | 12 + 3 - 4 - 5 - 67 + 89 = 28          |
|    | 1 + 2 + 3 - 4 - 56 - 7 + 89 = 28       |
|    | 123 - 45 - 67 + 8 + 9 = 28             |
|    | 12 - 3 - 4 + 5 - 6 + 7 + 8 + 9 = 28    |
|    | 12 + 3 + 4 + 5 - 6 - 7 + 8 + 9 = 28    |
|    | 1 - 2 - 34 - 5 + 67 - 8 + 9 = 28       |
|    | 12 + 3 + 4 - 5 + 6 + 7 - 8 + 9 = 28    |
|    | 12 - 34 + 56 - 7 - 8 + 9 = 28          |
|    |  |

|    | 1 - 2 + 34 - 5 + 6 - 7 - 8 + 9 = 28    |
|----|--|
|    | 12 + 3 - 4 + 5 + 6 + 7 + 8 - 9 = 28    |
|    | 1 - 2 + 34 - 5 - 6 + 7 + 8 - 9 = 28    |
|    | 1 + 2 + 34 + 5 - 6 - 7 + 8 - 9 = 28    |
|    | 1 - 23 + 4 + 56 + 7 - 8 - 9 = 28       |
|    | 1 + 2 + 34 - 5 + 6 + 7 - 8 - 9 = 28    |
|    | 1 + 2 - 3 - 4 + 56 - 7 - 8 - 9 = 28    |
|    | 1 + 2 + 3 - 4 + 5 - 67 + 89 = 29       |
|    | 1 + 2 + 3 + 45 + 67 - 89 = 29          |
|    | 12 + 34 + 5 + 67 - 89 = 29             |
|    | 1 - 2 + 3 - 4 - 56 + 78 + 9 = 29       |
|    | 1 + 2 - 3 + 4 - 5 + 6 + 7 + 8 + 9 = 29 |
|    | 1 - 2 + 3 + 4 + 5 - 6 + 7 + 8 + 9 = 29 |
|    | 1 + 23 - 4 + 5 - 6 - 7 + 8 + 9 = 29    |
|    | 1 + 2 + 3 - 45 + 67 - 8 + 9 = 29       |
|    | 1 - 2 - 34 + 56 + 7 - 8 + 9 = 29       |
| 29 | 1+2+3+4+5+6+7-8+9=29                   |
|    | 1 + 23 - 4 - 5 + 6 + 7 - 8 + 9 = 29    |
|    | 1 - 2 - 3 + 45 - 6 - 7 - 8 + 9 = 29    |
|    | 12 + 34 - 5 - 6 - 7 - 8 + 9 = 29       |
|    | 123 + 4 - 5 - 6 - 78 - 9 = 29          |
|    | 1 + 23 - 45 + 67 - 8 - 9 = 29          |
|    | 1 - 23 - 4 + 5 + 67 - 8 - 9 = 29       |
|    | 1 + 23 + 4 + 5 + 6 + 7 - 8 - 9 = 29    |
|    | 1 + 2 - 3 + 45 - 6 + 7 - 8 - 9 = 29    |
|    | 1 - 2 + 3 + 45 + 6 - 7 - 8 - 9 = 29    |
| 30 | 12 - 3 + 4 - 5 - 67 + 89 = 30          |
|    | 1 + 2 - 3 + 4 - 56 - 7 + 89 = 30       |
|    | 123 + 4 + 5 - 6 - 7 - 89 = 30          |
|    | 12 - 3 - 4 - 5 + 6 + 7 + 8 + 9 = 30    |
|    | 12 + 3 + 4 - 5 + 6 - 7 + 8 + 9 = 30    |
|    |  |

|    | 12 + 3 - 4 + 5 + 6 + 7 - 8 + 9 = 30    |
|----|--|
|    | 1 - 2 + 34 - 5 - 6 + 7 - 8 + 9 = 30    |
|    | 1 + 2 + 34 + 5 - 6 - 7 - 8 + 9 = 30    |
|    | 1 + 2 - 3 - 45 + 6 + 78 - 9 = 30       |
|    | 12 - 3 - 45 + 67 + 8 - 9 = 30          |
|    | 1 + 2 - 34 - 5 + 67 + 8 - 9 = 30       |
|    | 12 - 3 + 4 + 5 + 6 + 7 + 8 - 9 = 30    |
|    | 1 - 23 + 4 + 56 - 7 + 8 - 9 = 30       |
|    | 1 + 2 + 34 - 5 + 6 - 7 + 8 - 9 = 30    |
|    | 123 - 4 - 5 - 67 - 8 - 9 = 30          |
|    | 1 - 2 + 3 - 4 + 56 - 7 - 8 - 9 = 30    |
|    | 12 + 3 + 45 - 6 - 7 - 8 - 9 = 30       |
|    | 1 + 2 - 3 + 4 + 5 - 67 + 89 = 31       |
|    | 12 - 3 - 4 - 56 - 7 + 89 = 31          |
|    | 1 + 2 - 3 - 45 - 6 - 7 + 89 = 31       |
|    | 1 - 2 - 3 + 4 - 56 + 78 + 9 = 31       |
|    | 1 + 2 - 3 - 4 + 5 + 6 + 7 + 8 + 9 = 31 |
|    | 1 - 2 + 3 + 4 - 5 + 6 + 7 + 8 + 9 = 31 |
| 31 | 1 - 2 - 34 + 56 - 7 + 8 + 9 = 31       |
| 31 | 1 + 2 + 3 + 4 + 5 + 6 - 7 + 8 + 9 = 31 |
|    | 1 + 23 - 4 - 5 + 6 - 7 + 8 + 9 = 31    |
|    | 123 - 4 + 5 - 6 - 78 - 9 = 31          |
|    | 1 + 2 - 34 + 56 + 7 + 8 - 9 = 31       |
|    | 1 + 23 + 4 + 5 + 6 - 7 + 8 - 9 = 31    |
|    | 1 + 2 - 3 + 45 - 6 - 7 + 8 - 9 = 31    |
|    | 1 - 2 + 3 + 45 - 6 + 7 - 8 - 9 = 31    |
| 32 | 12 - 3 - 4 + 5 - 67 + 89 = 32          |
|    | 1 - 2 - 3 - 4 - 56 + 7 + 89 = 32       |
|    | 1 - 2 + 3 + 4 - 56 - 7 + 89 = 32       |
|    | 12 - 3 + 45 + 67 - 89 = 32             |
|    | 123 + 4 - 5 + 6 - 7 - 89 = 32          |
|    |  |

|    | 1 - 2 - 3 - 45 - 6 + 78 + 9 = 32       |
|----|--|
|    | 12 + 3 + 4 - 5 - 6 + 7 + 8 + 9 = 32    |
|    | 12 + 3 - 4 + 5 + 6 - 7 + 8 + 9 = 32    |
|    | 1 - 2 + 34 - 5 - 6 - 7 + 8 + 9 = 32    |
|    | 12 - 3 - 45 + 67 - 8 + 9 = 32          |
|    | 1 + 2 - 34 - 5 + 67 - 8 + 9 = 32       |
|    | 12 - 3 + 4 + 5 + 6 + 7 - 8 + 9 = 32    |
|    | 1 - 23 + 4 + 56 - 7 - 8 + 9 = 32       |
|    | 1 + 2 + 34 - 5 + 6 - 7 - 8 + 9 = 32    |
|    | 12 + 3 + 4 - 56 + 78 - 9 = 32          |
|    | 1 - 2 + 3 - 45 + 6 + 78 - 9 = 32       |
|    | 1 - 23 - 4 - 5 - 6 + 78 - 9 = 32       |
|    | 1 + 2 + 34 - 5 - 6 + 7 + 8 - 9 = 32    |
|    | 1 - 2 - 3 + 4 + 56 - 7 - 8 - 9 = 32    |
| 33 | 1 - 2 + 3 + 4 + 5 - 67 + 89 = 33       |
|    | 1 - 2 + 3 - 45 - 6 - 7 + 89 = 33       |
|    | 1 + 2 + 3 - 4 - 56 + 78 + 9 = 33       |
|    | 12 + 34 + 56 - 78 + 9 = 33             |
|    | 1 - 2 + 3 - 4 + 5 + 6 + 7 + 8 + 9 = 33 |
|    | 1 + 2 + 3 + 4 + 5 - 6 + 7 + 8 + 9 = 33 |
|    | 1 + 23 - 4 - 5 - 6 + 7 + 8 + 9 = 33    |
|    | 1 + 2 - 34 + 56 + 7 - 8 + 9 = 33       |
|    | 1 + 23 + 4 + 5 + 6 - 7 - 8 + 9 = 33    |
|    | 1 + 2 - 3 + 45 - 6 - 7 - 8 + 9 = 33    |
|    | 1 + 23 - 4 - 56 + 78 - 9 = 33          |
|    | 12 + 3 - 45 - 6 + 78 - 9 = 33          |
|    | 1 - 2 - 34 + 5 - 6 + 78 - 9 = 33       |
|    | 123 - 4 - 5 + 6 - 78 - 9 = 33          |
|    | 1 + 23 + 4 + 5 - 6 + 7 + 8 - 9 = 33    |
|    | 1 - 2 + 3 + 45 - 6 - 7 + 8 - 9 = 33    |
|    | 12 - 34 + 5 + 67 - 8 - 9 = 33          |
|    |  |

|    | 1 + 2 + 3 + 45 + 6 - 7 - 8 - 9 = 33    |
|----|--|
|    | 12 + 34 + 5 + 6 - 7 - 8 - 9 = 33       |
|    | 123 + 4 - 5 - 6 + 7 - 89 = 34          |
|    | 123 - 4 + 5 + 6 - 7 - 89 = 34          |
|    | 12 + 3 - 4 + 5 - 6 + 7 + 8 + 9 = 34    |
| 34 | 12 - 3 + 4 + 5 + 6 - 7 + 8 + 9 = 34    |
|    | 1 + 2 + 34 - 5 - 6 + 7 - 8 + 9 = 34    |
|    | 1 - 2 + 34 + 5 + 6 + 7 - 8 - 9 = 34    |
|    | 1 + 2 + 3 - 4 + 56 - 7 - 8 - 9 = 34    |
|    | 1 - 23 - 45 + 6 + 7 + 89 = 35          |
|    | 1 + 2 - 3 + 4 - 56 + 78 + 9 = 35       |
|    | 1 - 2 - 3 - 45 + 67 + 8 + 9 = 35       |
|    | 1 - 2 - 3 + 4 + 5 + 6 + 7 + 8 + 9 = 35 |
|    | 1 + 2 + 3 + 4 - 5 + 6 + 7 + 8 + 9 = 35 |
|    | 1 + 2 - 34 + 56 - 7 + 8 + 9 = 35       |
| 25 | 1 + 23 + 4 + 5 - 6 + 7 - 8 + 9 = 35    |
| 35 | 1 - 2 + 3 + 45 - 6 - 7 - 8 + 9 = 35    |
|    | 1 - 2 - 34 - 5 + 6 + 78 - 9 = 35       |
|    | 1 - 23 - 4 - 5 + 67 + 8 - 9 = 35       |
|    | 1 - 23 + 45 + 6 + 7 + 8 - 9 = 35       |
|    | 1 + 23 + 4 - 5 + 6 + 7 + 8 - 9 = 35    |
|    | 1 + 2 + 3 + 45 - 6 + 7 - 8 - 9 = 35    |
|    | 12 + 34 + 5 - 6 + 7 - 8 - 9 = 35       |
| 36 | 12 + 3 + 4 - 5 - 67 + 89 = 36          |
|    | 1 + 2 - 3 - 4 - 56 + 7 + 89 = 36       |
|    | 1 + 2 + 3 + 4 - 56 - 7 + 89 = 36       |
|    | 1 - 2 - 34 - 5 - 6 - 7 + 89 = 36       |
|    | 123 - 4 + 5 - 6 + 7 - 89 = 36          |
|    | 12 - 3 - 4 - 56 + 78 + 9 = 36          |
|    | 1 + 2 - 3 - 45 - 6 + 78 + 9 = 36       |
|    | 12 + 3 - 4 - 5 + 6 + 7 + 8 + 9 = 36    |
|    |  |

|    | 12 - 3 + 4 + 5 - 6 + 7 + 8 + 9 = 36    |
|----|--|
|    | 1 + 2 + 34 - 5 - 6 - 7 + 8 + 9 = 36    |
|    | 1 + 2 + 3 - 45 + 6 + 78 - 9 = 36       |
|    | 12 - 34 - 5 - 6 + 78 - 9 = 36          |
|    | 12 + 3 - 45 + 67 + 8 - 9 = 36          |
|    | 1 - 2 - 34 + 5 + 67 + 8 - 9 = 36       |
|    | 1 - 23 - 4 + 56 + 7 + 8 - 9 = 36       |
|    | 12 + 3 + 4 + 5 + 6 + 7 + 8 - 9 = 36    |
|    | 1 - 2 + 34 + 5 + 6 - 7 + 8 - 9 = 36    |
|    | 1 + 2 - 3 + 4 + 56 - 7 - 8 - 9 = 36    |
|    | 12 - 3 + 45 + 6 - 7 - 8 - 9 = 36       |
|    | 1 + 2 + 3 + 4 + 5 - 67 + 89 = 37       |
|    | 1 + 23 - 4 - 5 - 67 + 89 = 37          |
|    | 12 + 3 - 4 - 56 - 7 + 89 = 37          |
|    | 1 + 2 + 3 - 45 - 6 - 7 + 89 = 37       |
|    | 1 - 2 + 3 + 4 - 56 + 78 + 9 = 37       |
|    | 1 + 2 + 3 - 4 + 5 + 6 + 7 + 8 + 9 = 37 |
|    | 1 + 23 + 4 + 5 - 6 - 7 + 8 + 9 = 37    |
|    | 1 - 23 - 4 - 5 + 67 - 8 + 9 = 37       |
|    | 1 - 23 + 45 + 6 + 7 - 8 + 9 = 37       |
| 37 | 1 + 23 + 4 - 5 + 6 + 7 - 8 + 9 = 37    |
|    | 1 + 2 - 34 + 5 - 6 + 78 - 9 = 37       |
|    | 1 + 23 - 4 + 5 + 6 + 7 + 8 - 9 = 37    |
|    | 1 + 2 + 3 + 45 - 6 - 7 + 8 - 9 = 37    |
|    | 12 + 34 + 5 - 6 - 7 + 8 - 9 = 37       |
|    | 1 - 23 + 4 + 5 + 67 - 8 - 9 = 37       |
|    | 1 - 2 - 3 - 4 - 5 + 67 - 8 - 9 = 37    |
|    | 1 - 2 - 3 + 45 + 6 + 7 - 8 - 9 = 37    |
|    | 12 + 34 - 5 + 6 + 7 - 8 - 9 = 37       |
|    | 12 - 3 - 4 + 56 - 7 - 8 - 9 = 37       |
| 38 | 12 + 3 - 4 + 5 - 67 + 89 = 38          |
|    |  |

|    | 1 - 2 + 3 - 4 - 56 + 7 + 89 = 38   |
|----|--|
|    | 12 + 3 + 45 + 67 - 89 = 38   |
|    | 123 - 4 - 5 + 6 + 7 - 89 = 38  |
|    | 1 - 2 + 3 - 45 - 6 + 78 + 9 = 38   |
|    | 12 - 3 + 4 - 5 + 6 + 7 + 8 + 9 = 38  |
|    | 12 + 3 - 45 + 67 - 8 + 9 = 38  |
|    | 1 - 2 - 34 + 5 + 67 - 8 + 9 = 38   |
|    | 1 - 23 - 4 + 56 + 7 - 8 + 9 = 38   |
|    | 12 + 3 + 4 + 5 + 6 + 7 - 8 + 9 = 38  |
|    | 1 - 2 + 34 + 5 + 6 - 7 - 8 + 9 = 38  |
|    | 1 - 2 + 34 + 5 - 6 + 7 + 8 - 9 = 38  |
|    | 123 + 4 - 5 - 67 - 8 - 9 = 38  |
|    | 1 - 2 - 3 - 4 + 56 + 7 - 8 - 9 = 38  |
|    | 1 + 2 + 34 + 5 + 6 + 7 - 8 - 9 = 38  |
|    | 12 - 3 + 45 - 6 + 7 - 8 - 9 = 38   |
|    | 1 - 2 + 3 + 4 + 56 - 7 - 8 - 9 = 38  |
|    | 1-2+3+4+50-7-8-9=38  |
| 39 | 12 - 3 + 4 - 56 - 7 + 89 = 39  |
| 39 |  |
| 39 | 12 - 3 + 4 - 56 - 7 + 89 = 39  |
| 39 | 12 - 3 + 4 - 56 - 7 + 89 = 39<br>1 - 2 - 3 - 45 + 6 - 7 + 89 = 39  |
| 39 | 12 - 3 + 4 - 56 - 7 + 89 = 39<br>1 - 2 - 3 - 45 + 6 - 7 + 89 = 39<br>123 - 4 - 5 - 6 - 78 + 9 = 39   |
| 39 | 12 - 3 + 4 - 56 - 7 + 89 = 39<br>1 - 2 - 3 - 45 + 6 - 7 + 89 = 39<br>123 - 4 - 5 - 6 - 78 + 9 = 39<br>1 + 2 - 3 - 45 + 67 + 8 + 9 = 39   |
| 39 | 12 - 3 + 4 - 56 - 7 + 89 = 39<br>1 - 2 - 3 - 45 + 6 - 7 + 89 = 39<br>123 - 4 - 5 - 6 - 78 + 9 = 39<br>1 + 2 - 3 - 45 + 67 + 8 + 9 = 39<br>1 + 2 - 3 + 4 + 5 + 6 + 7 + 8 + 9 = 39   |
| 39 | 12 - 3 + 4 - 56 - 7 + 89 = 39 $1 - 2 - 3 - 45 + 6 - 7 + 89 = 39$ $123 - 4 - 5 - 6 - 78 + 9 = 39$ $1 + 2 - 3 - 45 + 67 + 8 + 9 = 39$ $1 + 2 - 3 + 4 + 5 + 6 + 7 + 8 + 9 = 39$ $1 - 23 + 45 + 6 - 7 + 8 + 9 = 39$  |
| 39 | 12 - 3 + 4 - 56 - 7 + 89 = 39 $1 - 2 - 3 - 45 + 6 - 7 + 89 = 39$ $123 - 4 - 5 - 6 - 78 + 9 = 39$ $1 + 2 - 3 - 45 + 67 + 8 + 9 = 39$ $1 + 2 - 3 + 4 + 5 + 6 + 7 + 8 + 9 = 39$ $1 - 23 + 45 + 6 - 7 + 8 + 9 = 39$ $1 + 23 + 4 - 5 + 6 - 7 + 8 + 9 = 39$  |
| 39 | 12 - 3 + 4 - 56 - 7 + 89 = 39 $1 - 2 - 3 - 45 + 6 - 7 + 89 = 39$ $123 - 4 - 5 - 6 - 78 + 9 = 39$ $1 + 2 - 3 - 45 + 67 + 8 + 9 = 39$ $1 + 2 - 3 + 4 + 5 + 6 + 7 + 8 + 9 = 39$ $1 - 23 + 45 + 6 - 7 + 8 + 9 = 39$ $1 + 23 + 4 - 5 + 6 - 7 + 8 + 9 = 39$ $1 + 23 - 4 + 5 + 6 + 7 - 8 + 9 = 39$  |
| 39 | 12 - 3 + 4 - 56 - 7 + 89 = 39 $1 - 2 - 3 - 45 + 6 - 7 + 89 = 39$ $123 - 4 - 5 - 6 - 78 + 9 = 39$ $1 + 2 - 3 - 45 + 67 + 8 + 9 = 39$ $1 + 2 - 3 + 4 + 5 + 6 + 7 + 8 + 9 = 39$ $1 - 23 + 45 + 6 - 7 + 8 + 9 = 39$ $1 + 23 + 4 - 5 + 6 - 7 + 8 + 9 = 39$ $1 + 23 - 4 + 5 + 6 + 7 - 8 + 9 = 39$ $1 + 2 + 3 + 45 - 6 - 7 - 8 + 9 = 39$  |
| 39 | 12 - 3 + 4 - 56 - 7 + 89 = 39 $1 - 2 - 3 - 45 + 6 - 7 + 89 = 39$ $123 - 4 - 5 - 6 - 78 + 9 = 39$ $1 + 2 - 3 - 45 + 67 + 8 + 9 = 39$ $1 + 2 - 3 + 4 + 5 + 6 + 7 + 8 + 9 = 39$ $1 - 23 + 45 + 6 - 7 + 8 + 9 = 39$ $1 + 23 + 4 - 5 + 6 - 7 + 8 + 9 = 39$ $1 + 23 - 4 + 5 + 6 + 7 - 8 + 9 = 39$ $1 + 2 + 3 + 45 - 6 - 7 - 8 + 9 = 39$ $12 + 34 + 5 - 6 - 7 - 8 + 9 = 39$   |
| 39 | 12 - 3 + 4 - 56 - 7 + 89 = 39 $1 - 2 - 3 - 45 + 6 - 7 + 89 = 39$ $123 - 4 - 5 - 6 - 78 + 9 = 39$ $1 + 2 - 3 - 45 + 67 + 8 + 9 = 39$ $1 + 2 - 3 + 4 + 5 + 6 + 7 + 8 + 9 = 39$ $1 - 23 + 45 + 6 - 7 + 8 + 9 = 39$ $1 + 23 + 4 - 5 + 6 - 7 + 8 + 9 = 39$ $1 + 23 - 4 + 5 + 6 + 7 - 8 + 9 = 39$ $1 + 2 + 3 + 45 - 6 - 7 - 8 + 9 = 39$ $12 + 34 + 5 - 6 - 7 - 8 + 9 = 39$ $12 - 3 - 45 + 6 + 78 - 9 = 39$   |
| 39 | 12 - 3 + 4 - 56 - 7 + 89 = 39 $1 - 2 - 3 - 45 + 6 - 7 + 89 = 39$ $123 - 4 - 5 - 6 - 78 + 9 = 39$ $1 + 2 - 3 - 45 + 67 + 8 + 9 = 39$ $1 + 2 - 3 + 4 + 5 + 6 + 7 + 8 + 9 = 39$ $1 - 23 + 45 + 6 - 7 + 8 + 9 = 39$ $1 + 23 + 4 - 5 + 6 - 7 + 8 + 9 = 39$ $1 + 23 - 4 + 5 + 6 + 7 - 8 + 9 = 39$ $1 + 2 + 3 + 45 - 6 - 7 - 8 + 9 = 39$ $12 + 34 + 5 - 6 - 7 - 8 + 9 = 39$ $12 - 3 - 45 + 6 + 78 - 9 = 39$ $1 + 2 - 34 - 5 + 6 + 78 - 9 = 39$                              |
| 39 | 12 - 3 + 4 - 56 - 7 + 89 = 39 $1 - 2 - 3 - 45 + 6 - 7 + 89 = 39$ $123 - 4 - 5 - 6 - 78 + 9 = 39$ $1 + 2 - 3 - 45 + 67 + 8 + 9 = 39$ $1 + 2 - 3 + 4 + 5 + 6 + 7 + 8 + 9 = 39$ $1 - 23 + 45 + 6 - 7 + 8 + 9 = 39$ $1 + 23 + 4 - 5 + 6 - 7 + 8 + 9 = 39$ $1 + 23 - 4 + 5 + 6 + 7 - 8 + 9 = 39$ $1 + 2 + 3 + 45 - 6 - 7 - 8 + 9 = 39$ $12 + 34 + 5 - 6 - 7 - 8 + 9 = 39$ $12 - 3 - 45 + 6 + 78 - 9 = 39$ $12 - 3 - 45 + 6 + 78 - 9 = 39$ $123 + 4 + 5 - 6 - 78 - 9 = 39$ |

|    | 12 + 34 - 5 + 6 - 7 + 8 - 9 = 39       |
|----|--|
|    | 123 - 4 - 56 - 7 - 8 - 9 = 39          |
|    | 1 + 23 + 45 - 6 - 7 - 8 - 9 = 39       |
|    | 12 - 3 + 4 + 5 - 67 + 89 = 40          |
|    | 1 - 2 - 3 + 4 - 56 + 7 + 89 = 40       |
|    | 12 - 3 - 45 - 6 - 7 + 89 = 40          |
|    | 1 + 2 - 34 - 5 - 6 - 7 + 89 = 40       |
|    | 12 - 3 - 4 + 5 + 6 + 7 + 8 + 9 = 40    |
|    | 1 - 23 - 4 + 56 - 7 + 8 + 9 = 40       |
|    | 12 + 3 + 4 + 5 + 6 - 7 + 8 + 9 = 40    |
| 40 | 1 - 2 + 34 + 5 - 6 + 7 - 8 + 9 = 40    |
| 40 | 1 - 23 + 4 - 5 - 6 + 78 - 9 = 40       |
|    | 1 + 2 - 34 + 5 + 67 + 8 - 9 = 40       |
|    | 12 - 34 + 56 + 7 + 8 - 9 = 40          |
|    | 1 - 2 + 34 - 5 + 6 + 7 + 8 - 9 = 40    |
|    | 1 - 2 - 3 - 4 + 56 - 7 + 8 - 9 = 40    |
|    | 1 + 2 + 34 + 5 + 6 - 7 + 8 - 9 = 40    |
|    | 12 - 3 + 45 - 6 - 7 + 8 - 9 = 40       |
|    | 123 - 4 + 5 - 67 - 8 - 9 = 40          |
| 41 | 1 - 2 - 3 - 45 - 6 + 7 + 89 = 41       |
|    | 1 + 2 + 3 + 4 - 56 + 78 + 9 = 41       |
|    | 1 - 2 - 34 - 5 - 6 + 78 + 9 = 41       |
|    | 1 - 2 + 3 - 45 + 67 + 8 + 9 = 41       |
|    | 1 - 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 = 41 |
|    | 1 - 23 + 45 - 6 + 7 + 8 + 9 = 41       |
|    | 1 + 23 + 4 - 5 - 6 + 7 + 8 + 9 = 41    |
|    | 1 + 23 - 4 + 5 + 6 - 7 + 8 + 9 = 41    |
|    | 12 - 34 - 5 + 67 - 8 + 9 = 41          |
|    | 1 - 2 - 3 + 45 + 6 - 7 - 8 + 9 = 41    |
|    | 12 + 34 - 5 + 6 - 7 - 8 + 9 = 41       |
|    | 1 + 23 + 4 - 56 + 78 - 9 = 41          |
|    |  |

|    | 123 + 4 - 5 + 6 - 78 - 9 = 41       |
|----|-------------------------------------|
|    | 1 - 2 - 3 + 45 - 6 + 7 + 8 - 9 = 41 |
|    | 12 + 34 - 5 - 6 + 7 + 8 - 9 = 41    |
|    | 1 + 2 - 3 - 4 - 5 + 67 - 8 - 9 = 41 |
|    | 1 + 2 - 3 + 45 + 6 + 7 - 8 - 9 = 41 |
|    | 1 + 2 + 3 - 4 - 56 + 7 + 89 = 42    |
|    | 123 + 4 + 5 + 6 - 7 - 89 = 42       |
|    | 12 + 3 - 4 - 56 + 78 + 9 = 42       |
|    | 1 + 2 + 3 - 45 - 6 + 78 + 9 = 42    |
|    | 12 + 3 + 4 + 5 - 6 + 7 + 8 + 9 = 42 |
|    | 1 - 2 + 34 + 5 - 6 - 7 + 8 + 9 = 42 |
|    | 1 + 2 - 34 + 5 + 67 - 8 + 9 = 42    |
|    | 12 - 34 + 56 + 7 - 8 + 9 = 42       |
| 42 | 1 - 2 + 34 - 5 + 6 + 7 - 8 + 9 = 42 |
| 42 | 1 - 2 - 3 - 4 + 56 - 7 - 8 + 9 = 42 |
|    | 1 + 2 + 34 + 5 + 6 - 7 - 8 + 9 = 42 |
|    | 12 - 3 + 45 - 6 - 7 - 8 + 9 = 42    |
|    | 1 + 23 - 45 - 6 + 78 - 9 = 42       |
|    | 1 - 23 - 4 + 5 - 6 + 78 - 9 = 42    |
|    | 1 + 2 + 34 + 5 - 6 + 7 + 8 - 9 = 42 |
|    | 1 + 2 - 3 - 4 + 56 + 7 - 8 - 9 = 42 |
|    | 1 + 2 + 3 + 4 + 56 - 7 - 8 - 9 = 42 |
|    | 12 + 3 + 45 + 6 - 7 - 8 - 9 = 42    |
| 43 | 1 + 2 - 3 - 45 + 6 - 7 + 89 = 43    |
|    | 1 + 23 - 4 + 5 - 6 + 7 + 8 + 9 = 43 |
|    | 1 - 2 - 3 + 45 - 6 + 7 - 8 + 9 = 43 |
|    | 12 + 34 - 5 - 6 + 7 - 8 + 9 = 43    |
|    | 123 - 4 + 5 + 6 - 78 - 9 = 43       |
|    | 1 - 23 + 4 - 5 + 67 + 8 - 9 = 43    |
|    | 1 + 2 - 3 + 45 + 6 - 7 + 8 - 9 = 43 |
|    | 1 - 2 + 3 - 4 - 5 + 67 - 8 - 9 = 43 |
|    |                                     |

|    | 1 - 2 + 3 + 45 + 6 + 7 - 8 - 9 = 43   |
|----|---|
|    | 12 + 3 - 4 + 56 - 7 - 8 - 9 = 43  |
|    | 1 + 2 - 3 + 4 - 56 + 7 + 89 = 44  |
|    | 123 + 4 + 5 - 6 + 7 - 89 = 44   |
|    | 12 - 3 + 4 - 56 + 78 + 9 = 44   |
|    | 1 - 2 - 3 - 45 + 6 + 78 + 9 = 44  |
|    | 1 - 2 - 34 - 5 + 67 + 8 + 9 = 44  |
|    | 12 + 3 + 4 - 5 + 6 + 7 + 8 + 9 = 44   |
|    | 12 - 34 + 56 - 7 + 8 + 9 = 44   |
| 44 | 1 - 2 + 34 - 5 + 6 - 7 + 8 + 9 = 44   |
|    | 1 + 2 + 34 + 5 - 6 + 7 - 8 + 9 = 44   |
|    | 1 - 23 - 4 - 5 + 6 + 78 - 9 = 44  |
|    | 1 - 23 + 4 + 56 + 7 + 8 - 9 = 44  |
|    | 1 + 2 + 34 - 5 + 6 + 7 + 8 - 9 = 44   |
|    | 1 + 2 - 3 - 4 + 56 - 7 + 8 - 9 = 44   |
|    | 1 - 2 + 3 - 4 + 56 + 7 - 8 - 9 = 44   |
|    | 12 + 3 + 45 - 6 + 7 - 8 - 9 = 44  |
| 45 | 1 - 23 + 45 - 67 + 89 = 45  |
|    | 1 + 23 + 4 - 5 - 67 + 89 = 45   |
|    |   |
|    | 12 - 3 - 4 - 56 + 7 + 89 = 45   |
|    | 12 - 3 - 4 - 56 + 7 + 89 = 45<br>1 + 2 - 3 - 45 - 6 + 7 + 89 = 45   |
|    |   |
|    | 1 + 2 - 3 - 45 - 6 + 7 + 89 = 45  |
|    | 1 + 2 - 3 - 45 - 6 + 7 + 89 = 45<br>12 + 3 + 4 - 56 - 7 + 89 = 45   |
|    | 1 + 2 - 3 - 45 - 6 + 7 + 89 = 45<br>12 + 3 + 4 - 56 - 7 + 89 = 45<br>1 - 2 + 3 - 45 + 6 - 7 + 89 = 45   |
|    | 1 + 2 - 3 - 45 - 6 + 7 + 89 = 45<br>12 + 3 + 4 - 56 - 7 + 89 = 45<br>1 - 2 + 3 - 45 + 6 - 7 + 89 = 45<br>1 - 23 - 4 - 5 - 6 - 7 + 89 = 45   |
|    | 1+2-3-45-6+7+89=45 $12+3+4-56-7+89=45$ $1-2+3-45+6-7+89=45$ $1-23-4-5-6-7+89=45$ $12-3-45-6+78+9=45$  |
|    | 1 + 2 - 3 - 45 - 6 + 7 + 89 = 45 $12 + 3 + 4 - 56 - 7 + 89 = 45$ $1 - 2 + 3 - 45 + 6 - 7 + 89 = 45$ $1 - 23 - 4 - 5 - 6 - 7 + 89 = 45$ $12 - 3 - 45 - 6 + 78 + 9 = 45$ $1 + 2 - 34 - 5 - 6 + 78 + 9 = 45$ |
|    | 1+2-3-45-6+7+89=45 $12+3+4-56-7+89=45$ $1-2+3-45+6-7+89=45$ $1-23-4-5-6-7+89=45$ $12-3-45-6+78+9=45$ $1+2-34-5-6+78+9=45$ $1+2+3-45+67+8+9=45$  |
|    | 1+2-3-45-6+7+89=45 $12+3+4-56-7+89=45$ $1-2+3-45+6-7+89=45$ $1-23-4-5-6-7+89=45$ $12-3-45-6+78+9=45$ $1+2-34-5-6+78+9=45$ $1+2+3-45+67+8+9=45$ $1-2-34+56+7+8+9=45$                                       |
|    | 1+2-3-45-6+7+89=45 $12+3+4-56-7+89=45$ $1-2+3-45+6-7+89=45$ $1-23-4-5-6-7+89=45$ $12-3-45-6+78+9=45$ $1+2-34-5-6+78+9=45$ $1+2+3-45+67+8+9=45$ $1-2-34+56+7+8+9=45$ $1+2+3+4+5+6+7+8+9=45$                |

|    | 12 + 34 - 5 - 6 - 7 + 8 + 9 = 45    |
|----|-------------------------------------|
|    | 1 - 23 + 4 - 5 + 67 - 8 + 9 = 45    |
|    | 1 + 2 - 3 + 45 + 6 - 7 - 8 + 9 = 45 |
|    | 12 + 3 - 45 + 6 + 78 - 9 = 45       |
|    | 1 - 2 - 34 + 5 + 6 + 78 - 9 = 45    |
|    | 1 + 23 - 45 + 67 + 8 - 9 = 45       |
|    | 1 - 23 - 4 + 5 + 67 + 8 - 9 = 45    |
|    | 1 + 23 + 4 + 5 + 6 + 7 + 8 - 9 = 45 |
|    | 1 + 2 - 3 + 45 - 6 + 7 + 8 - 9 = 45 |
|    | 1 - 2 + 3 + 45 + 6 - 7 + 8 - 9 = 45 |
|    | 1 - 2 - 3 + 4 - 5 + 67 - 8 - 9 = 45 |
|    | 12 - 3 + 4 + 56 - 7 - 8 - 9 = 45    |
|    | 12 + 3 + 4 + 5 - 67 + 89 = 46       |
|    | 1 - 2 + 3 + 4 - 56 + 7 + 89 = 46    |
|    | 1 + 23 - 4 - 56 - 7 + 89 = 46       |
|    | 12 + 3 - 45 - 6 - 7 + 89 = 46       |
|    | 1 - 2 - 34 + 5 - 6 - 7 + 89 = 46    |
|    | 123 + 4 - 5 + 6 + 7 - 89 = 46       |
|    | 12 + 3 - 4 + 5 + 6 + 7 + 8 + 9 = 46 |
|    | 1 - 2 + 34 - 5 - 6 + 7 + 8 + 9 = 46 |
| 46 | 1 + 2 + 34 + 5 - 6 - 7 + 8 + 9 = 46 |
| 40 | 1 - 23 + 4 + 56 + 7 - 8 + 9 = 46    |
|    | 1 + 2 + 34 - 5 + 6 + 7 - 8 + 9 = 46 |
|    | 1 + 2 - 3 - 4 + 56 - 7 - 8 + 9 = 46 |
|    | 1 - 2 + 34 - 56 + 78 - 9 = 46       |
|    | 12 - 34 + 5 - 6 + 78 - 9 = 46       |
|    | 123 - 4 - 5 - 67 + 8 - 9 = 46       |
|    | 1 - 2 + 3 - 4 + 56 - 7 + 8 - 9 = 46 |
|    | 12 + 3 + 45 - 6 - 7 + 8 - 9 = 46    |
|    | 1 - 2 - 3 + 4 + 56 + 7 - 8 - 9 = 46 |
| 47 | 1 + 23 - 4 + 5 - 67 + 89 = 47       |
|    |                                     |

|    | 1 - 2 + 3 - 45 - 6 + 7 + 89 = 47    |
|----|-------------------------------------|
|    | 1 + 23 + 45 + 67 - 89 = 47          |
|    | 123 + 4 - 5 - 6 - 78 + 9 = 47       |
|    | 1 + 23 - 45 + 67 - 8 + 9 = 47       |
|    | 1 - 23 - 4 + 5 + 67 - 8 + 9 = 47    |
|    | 1 + 23 + 4 + 5 + 6 + 7 - 8 + 9 = 47 |
|    | 1 + 2 - 3 + 45 - 6 + 7 - 8 + 9 = 47 |
|    | 1 - 2 + 3 + 45 + 6 - 7 - 8 + 9 = 47 |
|    | 1 - 2 + 3 + 45 - 6 + 7 + 8 - 9 = 47 |
|    | 1 - 2 - 3 - 4 + 5 + 67 - 8 - 9 = 47 |
|    | 1 + 2 + 3 - 4 - 5 + 67 - 8 - 9 = 47 |
|    | 1 + 2 + 3 + 45 + 6 + 7 - 8 - 9 = 47 |
|    | 12 + 34 + 5 + 6 + 7 - 8 - 9 = 47    |
|    | 123 + 4 - 56 - 7 - 8 - 9 = 47       |
| 48 | 1 - 2 - 34 - 5 + 6 - 7 + 89 = 48    |
|    | 123 - 4 + 5 + 6 + 7 - 89 = 48       |
|    | 1 + 2 - 3 - 45 + 6 + 78 + 9 = 48    |
|    | 12 - 3 - 45 + 67 + 8 + 9 = 48       |
|    | 1 + 2 - 34 - 5 + 67 + 8 + 9 = 48    |
|    | 12 - 3 + 4 + 5 + 6 + 7 + 8 + 9 = 48 |
|    | 1 - 23 + 4 + 56 - 7 + 8 + 9 = 48    |
|    | 1 + 2 + 34 - 5 + 6 - 7 + 8 + 9 = 48 |
|    | 123 - 4 - 5 - 67 - 8 + 9 = 48       |
|    | 1 - 2 + 3 - 4 + 56 - 7 - 8 + 9 = 48 |
|    | 12 + 3 + 45 - 6 - 7 - 8 + 9 = 48    |
|    | 12 - 34 - 5 + 6 + 78 - 9 = 48       |
|    | 1 - 2 - 3 + 4 + 56 - 7 + 8 - 9 = 48 |
|    | 123 + 4 + 5 - 67 - 8 - 9 = 48       |
|    | 1 + 2 + 3 - 4 + 56 + 7 - 8 - 9 = 48 |
|    | 123 - 45 - 6 - 7 - 8 - 9 = 48       |
| 49 | 1 + 2 + 3 - 45 + 6 - 7 + 89 = 49    |
|    |                                     |

|    | 12 - 34 - 5 - 6 - 7 + 89 = 49       |
|----|-------------------------------------|
|    | 123 - 4 + 5 - 6 - 78 + 9 = 49       |
|    | 1 + 2 - 34 + 56 + 7 + 8 + 9 = 49    |
|    | 1 + 23 + 4 + 5 + 6 - 7 + 8 + 9 = 49 |
|    | 1 + 2 - 3 + 45 - 6 - 7 + 8 + 9 = 49 |
|    | 1 - 2 + 3 + 45 - 6 + 7 - 8 + 9 = 49 |
|    | 1 + 2 - 34 + 5 + 6 + 78 - 9 = 49    |
|    | 12 - 34 + 5 + 67 + 8 - 9 = 49       |
|    | 1 + 2 + 3 + 45 + 6 - 7 + 8 - 9 = 49 |
|    | 12 + 34 + 5 + 6 - 7 + 8 - 9 = 49    |
|    | 1 + 2 - 3 + 4 - 5 + 67 - 8 - 9 = 49 |
|    | 1 - 2 + 34 - 5 - 67 + 89 = 50       |
|    | 1 + 2 + 3 + 4 - 56 + 7 + 89 = 50    |
|    | 1 - 2 - 34 - 5 - 6 + 7 + 89 = 50    |
|    | 1 + 2 - 34 + 5 - 6 - 7 + 89 = 50    |
|    | 12 + 3 + 4 - 56 + 78 + 9 = 50       |
|    | 1 - 2 + 3 - 45 + 6 + 78 + 9 = 50    |
|    | 1 - 23 - 4 - 5 - 6 + 78 + 9 = 50    |
|    | 1 + 2 + 34 - 5 - 6 + 7 + 8 + 9 = 50 |
| 50 | 1 - 2 - 3 + 4 + 56 - 7 - 8 + 9 = 50 |
|    | 1 + 2 + 34 - 56 + 78 - 9 = 50       |
|    | 1 - 23 + 4 + 5 - 6 + 78 - 9 = 50    |
|    | 1 - 2 - 3 - 4 - 5 - 6 + 78 - 9 = 50 |
|    | 1 - 2 + 34 + 5 + 6 + 7 + 8 - 9 = 50 |
|    | 1 + 2 + 3 - 4 + 56 - 7 + 8 - 9 = 50 |
|    | 12 - 3 - 4 - 5 + 67 - 8 - 9 = 50    |
|    | 1 + 2 - 3 + 4 + 56 + 7 - 8 - 9 = 50 |
|    | 12 - 3 + 45 + 6 + 7 - 8 - 9 = 50    |
| 51 | 12 + 3 - 4 - 56 + 7 + 89 = 51       |
|    | 1 + 2 + 3 - 45 - 6 + 7 + 89 = 51    |
|    | 1 + 23 - 4 - 56 + 78 + 9 = 51       |
|    |                                     |

|    | 12 + 3 - 45 - 6 + 78 + 9 = 51       |
|----|-------------------------------------|
|    | 1 - 2 - 34 + 5 - 6 + 78 + 9 = 51    |
|    | 123 - 4 - 5 + 6 - 78 + 9 = 51       |
|    | 1 + 23 + 4 + 5 - 6 + 7 + 8 + 9 = 51 |
|    | 1 - 2 + 3 + 45 - 6 - 7 + 8 + 9 = 51 |
|    | 12 - 34 + 5 + 67 - 8 + 9 = 51       |
|    | 1 + 2 + 3 + 45 + 6 - 7 - 8 + 9 = 51 |
|    | 12 + 34 + 5 + 6 - 7 - 8 + 9 = 51    |
|    | 123 + 4 + 5 + 6 - 78 - 9 = 51       |
|    | 1 + 2 + 3 + 45 - 6 + 7 + 8 - 9 = 51 |
|    | 12 + 34 + 5 - 6 + 7 + 8 - 9 = 51    |
|    | 1 + 2 - 3 - 4 + 5 + 67 - 8 - 9 = 51 |
|    | 1 - 2 + 3 + 4 - 5 + 67 - 8 - 9 = 51 |
|    | 12 - 3 - 4 + 56 + 7 - 8 - 9 = 51    |
|    | 12 + 3 + 4 + 56 - 7 - 8 - 9 = 51    |
|    | 1 + 23 + 45 + 6 - 7 - 8 - 9 = 51    |
|    | 12 - 3 - 45 + 6 - 7 + 89 = 52       |
|    | 1 + 2 - 34 - 5 + 6 - 7 + 89 = 52    |
|    | 1 - 2 + 34 + 5 + 6 + 7 - 8 + 9 = 52 |
|    | 1 + 2 + 3 - 4 + 56 - 7 - 8 + 9 = 52 |
| 52 | 1 - 23 + 4 - 5 + 6 + 78 - 9 = 52    |
|    | 1 + 2 - 3 + 4 + 56 - 7 + 8 - 9 = 52 |
|    | 12 - 3 + 45 + 6 - 7 + 8 - 9 = 52    |
|    | 1 - 2 + 3 + 4 + 56 + 7 - 8 - 9 = 52 |
|    | 1 + 23 - 4 + 56 - 7 - 8 - 9 = 52    |
| 53 | 12 - 3 + 4 - 56 + 7 + 89 = 53       |
|    | 1 - 2 - 3 - 45 + 6 + 7 + 89 = 53    |
|    | 1 - 23 + 4 - 5 - 6 - 7 + 89 = 53    |
|    | 1 - 2 - 34 - 5 + 6 + 78 + 9 = 53    |
|    | 1 - 23 - 4 - 5 + 67 + 8 + 9 = 53    |
|    | 1 - 23 + 45 + 6 + 7 + 8 + 9 = 53    |
|    |                                     |

|    | 1 + 23 + 4 - 5 + 6 + 7 + 8 + 9 = 53 |
|----|-------------------------------------|
|    | 1 + 2 + 3 + 45 - 6 + 7 - 8 + 9 = 53 |
|    | 12 + 34 + 5 - 6 + 7 - 8 + 9 = 53    |
|    | 1 - 23 + 4 + 5 + 67 + 8 - 9 = 53    |
|    | 1 - 2 - 3 - 4 - 5 + 67 + 8 - 9 = 53 |
|    | 1 - 2 - 3 + 45 + 6 + 7 + 8 - 9 = 53 |
|    | 12 + 34 - 5 + 6 + 7 + 8 - 9 = 53    |
|    | 12 - 3 - 4 + 56 - 7 + 8 - 9 = 53    |
|    | 1 - 2 + 3 - 4 + 5 + 67 - 8 - 9 = 53 |
|    | 123 - 4 - 56 + 7 - 8 - 9 = 53       |
|    | 1 + 23 + 45 - 6 + 7 - 8 - 9 = 53    |
| 54 | 1 + 2 + 34 - 5 - 67 + 89 = 54       |
|    | 12 - 3 - 45 - 6 + 7 + 89 = 54       |
|    | 1 + 2 - 34 - 5 - 6 + 7 + 89 = 54    |
|    | 1 + 23 + 4 - 56 - 7 + 89 = 54       |
|    | 1 + 2 + 3 - 45 + 6 + 78 + 9 = 54    |
|    | 12 - 34 - 5 - 6 + 78 + 9 = 54       |
|    | 12 + 3 - 45 + 67 + 8 + 9 = 54       |
|    | 1 - 2 - 34 + 5 + 67 + 8 + 9 = 54    |
|    | 1 - 23 - 4 + 56 + 7 + 8 + 9 = 54    |
|    | 12 + 3 + 4 + 5 + 6 + 7 + 8 + 9 = 54 |
|    | 1 - 2 + 34 + 5 + 6 - 7 + 8 + 9 = 54 |
|    | 1 + 2 - 3 + 4 + 56 - 7 - 8 + 9 = 54 |
|    | 12 - 3 + 45 + 6 - 7 - 8 + 9 = 54    |
|    | 1 + 23 - 45 + 6 + 78 - 9 = 54       |
|    | 1 - 23 - 4 + 5 + 6 + 78 - 9 = 54    |
|    | 1 + 2 - 3 - 4 - 5 - 6 + 78 - 9 = 54 |
|    | 123 + 4 - 5 - 67 + 8 - 9 = 54       |
|    | 1 - 2 - 3 - 4 + 56 + 7 + 8 - 9 = 54 |
|    | 1 + 2 + 34 + 5 + 6 + 7 + 8 - 9 = 54 |
|    | 12 - 3 + 45 - 6 + 7 + 8 - 9 = 54    |
|    |                                     |

|    | 1 - 2 + 3 + 4 + 56 - 7 + 8 - 9 = 54 |
|----|-------------------------------------|
|    | 1 + 23 + 4 + 5 - 67 + 89 = 55       |
|    | 1 + 23 - 45 - 6 - 7 + 89 = 55       |
|    | 1 - 23 - 4 + 5 - 6 - 7 + 89 = 55    |
|    | 1 + 2 - 34 + 5 - 6 + 78 + 9 = 55    |
|    | 1 + 23 - 4 + 5 + 6 + 7 + 8 + 9 = 55 |
|    | 1 + 2 + 3 + 45 - 6 - 7 + 8 + 9 = 55 |
|    | 12 + 34 + 5 - 6 - 7 + 8 + 9 = 55    |
|    | 1 - 23 + 4 + 5 + 67 - 8 + 9 = 55    |
| 55 | 1 - 2 - 3 - 4 - 5 + 67 - 8 + 9 = 55 |
|    | 1 - 2 - 3 + 45 + 6 + 7 - 8 + 9 = 55 |
|    | 12 + 34 - 5 + 6 + 7 - 8 + 9 = 55    |
|    | 12 - 3 - 4 + 56 - 7 - 8 + 9 = 55    |
|    | 123 - 4 - 56 - 7 + 8 - 9 = 55       |
|    | 1 + 23 + 45 - 6 - 7 + 8 - 9 = 55    |
|    | 1 - 2 - 3 + 4 + 5 + 67 - 8 - 9 = 55 |
|    | 1 + 2 + 3 + 4 - 5 + 67 - 8 - 9 = 55 |
|    | 123 - 45 + 67 - 89 = 56             |
|    | 123 + 4 + 5 + 6 + 7 - 89 = 56       |
|    | 1 - 2 + 34 + 5 - 6 + 7 + 8 + 9 = 56 |
|    | 123 + 4 - 5 - 67 - 8 + 9 = 56       |
|    | 1 - 2 - 3 - 4 + 56 + 7 - 8 + 9 = 56 |
|    | 1 + 2 + 34 + 5 + 6 + 7 - 8 + 9 = 56 |
| 56 | 12 - 3 + 45 - 6 + 7 - 8 + 9 = 56    |
|    | 1 - 2 + 3 + 4 + 56 - 7 - 8 + 9 = 56 |
|    | 1 - 2 + 3 - 4 - 5 - 6 + 78 - 9 = 56 |
|    | 123 - 4 + 5 - 67 + 8 - 9 = 56       |
|    | 12 + 3 - 4 - 5 + 67 - 8 - 9 = 56    |
|    | 1 + 2 + 3 + 4 + 56 + 7 - 8 - 9 = 56 |
|    | 12 + 3 + 45 + 6 + 7 - 8 - 9 = 56    |
| 57 | 1 + 2 - 3 - 45 + 6 + 7 + 89 = 57    |
|    |                                     |

|    | 1 - 23 - 4 - 5 + 6 - 7 + 89 = 57    |
|----|-------------------------------------|
|    | 12 - 3 - 45 + 6 + 78 + 9 = 57       |
|    | 1 + 2 - 34 - 5 + 6 + 78 + 9 = 57    |
|    | 123 + 4 + 5 - 6 - 78 + 9 = 57       |
|    | 12 - 34 - 5 + 67 + 8 + 9 = 57       |
|    | 1 - 2 - 3 + 45 + 6 - 7 + 8 + 9 = 57 |
|    | 12 + 34 - 5 + 6 - 7 + 8 + 9 = 57    |
|    | 123 - 4 - 56 - 7 - 8 + 9 = 57       |
|    | 1 + 23 + 45 - 6 - 7 - 8 + 9 = 57    |
|    | 1 + 2 - 3 - 4 - 5 + 67 + 8 - 9 = 57 |
|    | 1 + 2 - 3 + 45 + 6 + 7 + 8 - 9 = 57 |
|    | 1 + 2 + 3 - 4 + 5 + 67 - 8 - 9 = 57 |
|    | 12 + 3 - 4 + 56 + 7 - 8 - 9 = 57    |
|    | 12 + 3 - 45 + 6 - 7 + 89 = 58       |
|    | 1 - 2 - 34 + 5 + 6 - 7 + 89 = 58    |
|    | 1 - 23 + 4 - 5 - 6 + 78 + 9 = 58    |
|    | 1 + 2 - 34 + 5 + 67 + 8 + 9 = 58    |
|    | 12 - 34 + 56 + 7 + 8 + 9 = 58       |
|    | 1 - 2 + 34 - 5 + 6 + 7 + 8 + 9 = 58 |
|    | 1 - 2 - 3 - 4 + 56 - 7 + 8 + 9 = 58 |
| 58 | 1 + 2 + 34 + 5 + 6 - 7 + 8 + 9 = 58 |
| 30 | 12 - 3 + 45 - 6 - 7 + 8 + 9 = 58    |
|    | 123 - 4 + 5 - 67 - 8 + 9 = 58       |
|    | 12 - 34 + 5 + 6 + 78 - 9 = 58       |
|    | 1 - 2 - 3 + 4 - 5 - 6 + 78 - 9 = 58 |
|    | 1 + 2 - 3 - 4 + 56 + 7 + 8 - 9 = 58 |
|    | 1 + 2 + 3 + 4 + 56 - 7 + 8 - 9 = 58 |
|    | 12 + 3 + 45 + 6 - 7 + 8 - 9 = 58    |
|    | 12 - 3 + 4 - 5 + 67 - 8 - 9 = 58    |
| 59 | 12 + 3 + 4 - 56 + 7 + 89 = 59       |
|    | 1 - 2 + 3 - 45 + 6 + 7 + 89 = 59    |
|    |                                     |

|    | 1 - 23 - 4 - 5 - 6 + 7 + 89 = 59   |
|----|--|
|    | 1 - 2 + 34 - 56 - 7 + 89 = 59  |
|    | 12 - 34 + 5 - 6 - 7 + 89 = 59  |
|    | 1 + 23 + 4 - 56 + 78 + 9 = 59  |
|    | 123 + 4 - 5 + 6 - 78 + 9 = 59  |
|    | 1 - 2 - 3 + 45 - 6 + 7 + 8 + 9 = 59  |
|    | 12 + 34 - 5 - 6 + 7 + 8 + 9 = 59   |
|    | 1 + 2 - 3 - 4 - 5 + 67 - 8 + 9 = 59  |
|    | 1 + 2 - 3 + 45 + 6 + 7 - 8 + 9 = 59  |
|    | 12 + 34 - 56 + 78 - 9 = 59   |
|    | 1 - 2 + 3 - 4 - 5 + 67 + 8 - 9 = 59  |
|    | 1 - 2 + 3 + 45 + 6 + 7 + 8 - 9 = 59  |
|    | 12 + 3 - 4 + 56 - 7 + 8 - 9 = 59   |
|    | 1 + 2 - 3 + 4 + 5 + 67 - 8 - 9 = 59  |
|    | 12 - 3 + 4 + 56 + 7 - 8 - 9 = 59   |
| 60 | 1 - 2 + 34 + 5 - 67 + 89 = 60  |
|    |  |
|    | 1 + 23 - 4 - 56 + 7 + 89 = 60  |
|    | 1 + 23 - 4 - 56 + 7 + 89 = 60<br>12 + 3 - 45 - 6 + 7 + 89 = 60   |
|    |  |
|    | 12 + 3 - 45 - 6 + 7 + 89 = 60  |
|    | 12 + 3 - 45 - 6 + 7 + 89 = 60<br>1 - 2 - 34 + 5 - 6 + 7 + 89 = 60  |
|    | 12 + 3 - 45 - 6 + 7 + 89 = 60<br>1 - 2 - 34 + 5 - 6 + 7 + 89 = 60<br>1 + 23 - 45 - 6 + 78 + 9 = 60   |
|    | 12 + 3 - 45 - 6 + 7 + 89 = 60<br>1 - 2 - 34 + 5 - 6 + 7 + 89 = 60<br>1 + 23 - 45 - 6 + 78 + 9 = 60<br>1 - 23 - 4 + 5 - 6 + 78 + 9 = 60   |
|    | 12 + 3 - 45 - 6 + 7 + 89 = 60 $1 - 2 - 34 + 5 - 6 + 7 + 89 = 60$ $1 + 23 - 45 - 6 + 78 + 9 = 60$ $1 - 23 - 4 + 5 - 6 + 78 + 9 = 60$ $1 + 2 + 34 + 5 - 6 + 7 + 8 + 9 = 60$  |
|    | 12 + 3 - 45 - 6 + 7 + 89 = 60 $1 - 2 - 34 + 5 - 6 + 7 + 89 = 60$ $1 + 23 - 45 - 6 + 78 + 9 = 60$ $1 - 23 - 4 + 5 - 6 + 78 + 9 = 60$ $1 + 2 + 34 + 5 - 6 + 7 + 8 + 9 = 60$ $1 + 2 - 3 - 4 + 56 + 7 - 8 + 9 = 60$  |
|    | 12 + 3 - 45 - 6 + 7 + 89 = 60 $1 - 2 - 34 + 5 - 6 + 7 + 89 = 60$ $1 + 23 - 45 - 6 + 78 + 9 = 60$ $1 - 23 - 4 + 5 - 6 + 78 + 9 = 60$ $1 + 2 + 34 + 5 - 6 + 7 + 8 + 9 = 60$ $1 + 2 - 3 - 4 + 56 + 7 - 8 + 9 = 60$ $1 + 2 + 3 + 4 + 56 - 7 - 8 + 9 = 60$  |
|    | 12 + 3 - 45 - 6 + 7 + 89 = 60 $1 - 2 - 34 + 5 - 6 + 7 + 89 = 60$ $1 + 23 - 45 - 6 + 78 + 9 = 60$ $1 - 23 - 4 + 5 - 6 + 78 + 9 = 60$ $1 + 2 + 34 + 5 - 6 + 7 + 8 + 9 = 60$ $1 + 2 - 3 - 4 + 56 + 7 - 8 + 9 = 60$ $1 + 2 + 3 + 4 + 56 - 7 - 8 + 9 = 60$ $12 + 3 + 45 + 6 - 7 - 8 + 9 = 60$   |
|    | 12 + 3 - 45 - 6 + 7 + 89 = 60 $1 - 2 - 34 + 5 - 6 + 7 + 89 = 60$ $1 + 23 - 45 - 6 + 78 + 9 = 60$ $1 - 23 - 4 + 5 - 6 + 78 + 9 = 60$ $1 + 2 + 34 + 5 - 6 + 7 + 8 + 9 = 60$ $1 + 2 - 3 - 4 + 56 + 7 - 8 + 9 = 60$ $1 + 2 + 3 + 4 + 56 - 7 - 8 + 9 = 60$ $12 + 3 + 45 + 6 - 7 - 8 + 9 = 60$ $1 - 2 - 3 - 4 + 5 - 6 + 78 - 9 = 60$   |
|    | 12 + 3 - 45 - 6 + 7 + 89 = 60 $1 - 2 - 34 + 5 - 6 + 7 + 89 = 60$ $1 + 23 - 45 - 6 + 78 + 9 = 60$ $1 - 23 - 4 + 5 - 6 + 78 + 9 = 60$ $1 + 2 + 34 + 5 - 6 + 7 + 8 + 9 = 60$ $1 + 2 - 3 - 4 + 56 + 7 - 8 + 9 = 60$ $1 + 2 + 3 + 4 + 56 - 7 - 8 + 9 = 60$ $12 + 3 + 45 + 6 - 7 - 8 + 9 = 60$ $1 - 2 - 3 - 4 + 5 - 6 + 78 - 9 = 60$ $1 + 2 + 3 - 4 - 5 - 6 + 78 - 9 = 60$                                       |
|    | 12 + 3 - 45 - 6 + 7 + 89 = 60 $1 - 2 - 34 + 5 - 6 + 7 + 89 = 60$ $1 + 23 - 45 - 6 + 78 + 9 = 60$ $1 - 23 - 4 + 5 - 6 + 78 + 9 = 60$ $1 + 2 + 34 + 5 - 6 + 7 + 8 + 9 = 60$ $1 + 2 - 3 - 4 + 56 + 7 - 8 + 9 = 60$ $1 + 2 + 3 + 4 + 56 - 7 - 8 + 9 = 60$ $12 + 3 + 45 + 6 - 7 - 8 + 9 = 60$ $1 - 2 - 3 - 4 + 5 - 6 + 78 - 9 = 60$ $1 + 2 + 3 - 4 - 5 - 6 + 78 - 9 = 60$ $1 - 2 + 3 - 4 + 56 + 7 + 8 - 9 = 60$ |
|    | 12+3-45-6+7+89=60 $1-2-34+5-6+7+89=60$ $1+23-45-6+78+9=60$ $1-23-4+5-6+78+9=60$ $1+2+34+5-6+7+8+9=60$ $1+2-3-4+56+7-8+9=60$ $1+2+3+4+56-7-8+9=60$ $12+3+45+6-7-8+9=60$ $1-2-3-4+5-6+78-9=60$ $1-2+3-4+5-6+78-9=60$ $1-2+3-4+5-6+78-9=60$ $1-2+3-4+5-6+7+8-9=60$  |

|    | 123 - 45 + 6 - 7 - 8 - 9 = 60       |
|----|-------------------------------------|
|    | 12 - 34 - 5 + 6 - 7 + 89 = 61       |
|    | 123 - 4 + 5 + 6 - 78 + 9 = 61       |
|    | 1 - 23 + 4 - 5 + 67 + 8 + 9 = 61    |
|    | 1 + 2 - 3 + 45 + 6 - 7 + 8 + 9 = 61 |
|    | 1 - 2 + 3 - 4 - 5 + 67 - 8 + 9 = 61 |
| 61 | 1 - 2 + 3 + 45 + 6 + 7 - 8 + 9 = 61 |
|    | 12 + 3 - 4 + 56 - 7 - 8 + 9 = 61    |
|    | 1 - 2 - 3 + 4 - 5 + 67 + 8 - 9 = 61 |
|    | 12 - 3 + 4 + 56 - 7 + 8 - 9 = 61    |
|    | 1 - 2 + 3 + 4 + 5 + 67 - 8 - 9 = 61 |
|    | 123 + 4 - 56 + 7 - 8 - 9 = 61       |
|    | 1 - 2 - 34 - 5 + 6 + 7 + 89 = 62    |
|    | 1 + 2 - 34 + 5 + 6 - 7 + 89 = 62    |
|    | 1 - 23 - 4 - 5 + 6 + 78 + 9 = 62    |
|    | 1 - 23 + 4 + 56 + 7 + 8 + 9 = 62    |
|    | 1 + 2 + 34 - 5 + 6 + 7 + 8 + 9 = 62 |
|    | 1 + 2 - 3 - 4 + 56 - 7 + 8 + 9 = 62 |
| 62 | 1 - 2 + 3 - 4 + 56 + 7 - 8 + 9 = 62 |
|    | 12 + 3 + 45 - 6 + 7 - 8 + 9 = 62    |
|    | 1 - 23 + 4 + 5 + 6 + 78 - 9 = 62    |
|    | 1 - 2 - 3 - 4 - 5 + 6 + 78 - 9 = 62 |
|    | 1 + 2 - 3 + 4 - 5 - 6 + 78 - 9 = 62 |
|    | 1 - 2 - 3 + 4 + 56 + 7 + 8 - 9 = 62 |
|    | 123 - 45 - 6 + 7 - 8 - 9 = 62       |
| 63 | 1 - 2 - 3 + 45 - 67 + 89 = 63       |
|    | 12 + 34 - 5 - 67 + 89 = 63          |
|    | 1 + 2 + 3 - 45 + 6 + 7 + 89 = 63    |
|    | 12 - 34 - 5 - 6 + 7 + 89 = 63       |
|    | 1 + 2 + 34 - 56 - 7 + 89 = 63       |
|    | 1 - 23 + 4 + 5 - 6 - 7 + 89 = 63    |
|    |                                     |

|    | 1 - 2 - 3 - 4 - 5 - 6 - 7 + 89 = 63 |
|----|-------------------------------------|
|    | 12 + 3 - 45 + 6 + 78 + 9 = 63       |
|    | 1 - 2 - 34 + 5 + 6 + 78 + 9 = 63    |
|    | 1 + 23 - 45 + 67 + 8 + 9 = 63       |
|    | 1 - 23 - 4 + 5 + 67 + 8 + 9 = 63    |
|    | 1 + 23 + 4 + 5 + 6 + 7 + 8 + 9 = 63 |
|    | 1 + 2 - 3 + 45 - 6 + 7 + 8 + 9 = 63 |
|    | 1 - 2 + 3 + 45 + 6 - 7 + 8 + 9 = 63 |
|    | 1 - 2 - 3 + 4 - 5 + 67 - 8 + 9 = 63 |
|    | 12 - 3 + 4 + 56 - 7 - 8 + 9 = 63    |
|    | 12 - 3 - 4 - 5 - 6 + 78 - 9 = 63    |
|    | 1 - 2 - 3 - 4 + 5 + 67 + 8 - 9 = 63 |
|    | 1 + 2 + 3 - 4 - 5 + 67 + 8 - 9 = 63 |
|    | 1 + 2 + 3 + 45 + 6 + 7 + 8 - 9 = 63 |
|    | 12 + 34 + 5 + 6 + 7 + 8 - 9 = 63    |
|    | 123 + 4 - 56 - 7 + 8 - 9 = 63       |
|    | 1 + 2 + 34 + 5 - 67 + 89 = 64       |
|    | 1 + 2 - 34 + 5 - 6 + 7 + 89 = 64    |
|    | 1 - 2 + 34 - 56 + 78 + 9 = 64       |
|    | 12 - 34 + 5 - 6 + 78 + 9 = 64       |
|    | 123 - 4 - 5 - 67 + 8 + 9 = 64       |
|    | 1 - 2 + 3 - 4 + 56 - 7 + 8 + 9 = 64 |
| 64 | 12 + 3 + 45 - 6 - 7 + 8 + 9 = 64    |
|    | 1 - 2 - 3 + 4 + 56 + 7 - 8 + 9 = 64 |
|    | 1 + 2 - 3 - 4 + 5 - 6 + 78 - 9 = 64 |
|    | 1 - 2 + 3 + 4 - 5 - 6 + 78 - 9 = 64 |
|    | 123 + 4 + 5 - 67 + 8 - 9 = 64       |
|    | 1 + 2 + 3 - 4 + 56 + 7 + 8 - 9 = 64 |
|    | 123 - 45 - 6 - 7 + 8 - 9 = 64       |
|    | 12 + 3 + 4 - 5 + 67 - 8 - 9 = 64    |
| 65 | 1 - 23 + 4 - 5 + 6 - 7 + 89 = 65    |
|    |                                     |

|    | 1 - 2 + 3 + 45 - 6 + 7 + 8 + 9 = 65 |
|----|-------------------------------------|
|    | 1 - 2 - 3 - 4 + 5 + 67 - 8 + 9 = 65 |
|    | 1 + 2 + 3 - 4 - 5 + 67 - 8 + 9 = 65 |
|    | 1 + 2 + 3 + 45 + 6 + 7 - 8 + 9 = 65 |
|    | 12 + 34 + 5 + 6 + 7 - 8 + 9 = 65    |
|    | 123 + 4 - 56 - 7 - 8 + 9 = 65       |
|    | 1 + 2 - 3 + 4 - 5 + 67 + 8 - 9 = 65 |
|    | 1 + 2 + 3 + 4 + 5 + 67 - 8 - 9 = 65 |
|    | 1 + 23 - 4 - 5 + 67 - 8 - 9 = 65    |
|    | 12 + 3 + 4 + 56 + 7 - 8 - 9 = 65    |
|    | 1 + 23 + 45 + 6 + 7 - 8 - 9 = 65    |
|    | 1 - 2 + 34 + 56 - 7 - 8 - 9 = 65    |
|    | 12 - 3 - 45 + 6 + 7 + 89 = 66       |
|    | 1 + 2 - 34 - 5 + 6 + 7 + 89 = 66    |
|    | 123 + 45 - 6 - 7 - 89 = 66          |
|    | 12 - 34 - 5 + 6 + 78 + 9 = 66       |
|    | 1 - 2 - 3 + 4 + 56 - 7 + 8 + 9 = 66 |
|    | 123 + 4 + 5 - 67 - 8 + 9 = 66       |
|    | 1 + 2 + 3 - 4 + 56 + 7 - 8 + 9 = 66 |
| 66 | 123 - 45 - 6 - 7 - 8 + 9 = 66       |
|    | 1 + 2 - 3 - 4 - 5 + 6 + 78 - 9 = 66 |
|    | 1 - 2 + 3 - 4 + 5 - 6 + 78 - 9 = 66 |
|    | 12 - 3 - 4 - 5 + 67 + 8 - 9 = 66    |
|    | 1 + 2 - 3 + 4 + 56 + 7 + 8 - 9 = 66 |
|    | 12 - 3 + 45 + 6 + 7 + 8 - 9 = 66    |
|    | 12 + 3 - 4 + 5 + 67 - 8 - 9 = 66    |
|    | 1 + 23 - 4 + 56 + 7 - 8 - 9 = 66    |
| 67 | 1 + 2 - 3 + 45 - 67 + 89 = 67       |
|    | 1 - 23 + 4 - 5 - 6 + 7 + 89 = 67    |
|    | 1 + 23 - 45 + 6 - 7 + 89 = 67       |
|    | 1 - 23 - 4 + 5 + 6 - 7 + 89 = 67    |
|    |                                     |

|    | 1 + 2 - 3 - 4 - 5 - 6 - 7 + 89 = 67 |
|----|-------------------------------------|
|    | 1 + 2 - 34 + 5 + 6 + 78 + 9 = 67    |
|    | 12 - 34 + 5 + 67 + 8 + 9 = 67       |
|    | 1 + 2 + 3 + 45 + 6 - 7 + 8 + 9 = 67 |
|    | 12 + 34 + 5 + 6 - 7 + 8 + 9 = 67    |
|    | 1 + 2 - 3 + 4 - 5 + 67 - 8 + 9 = 67 |
|    | 1 + 2 - 3 - 4 + 5 + 67 + 8 - 9 = 67 |
|    | 1 - 2 + 3 + 4 - 5 + 67 + 8 - 9 = 67 |
|    | 12 - 3 - 4 + 56 + 7 + 8 - 9 = 67    |
|    | 12 + 3 + 4 + 56 - 7 + 8 - 9 = 67    |
|    | 1 + 23 + 45 + 6 - 7 + 8 - 9 = 67    |
|    | 1 + 23 + 4 - 56 + 7 + 89 = 68       |
|    | 1 + 2 + 34 - 56 + 78 + 9 = 68       |
|    | 1 - 23 + 4 + 5 - 6 + 78 + 9 = 68    |
|    | 1 - 2 - 3 - 4 - 5 - 6 + 78 + 9 = 68 |
|    | 1 - 2 + 34 + 5 + 6 + 7 + 8 + 9 = 68 |
|    | 1 + 2 + 3 - 4 + 56 - 7 + 8 + 9 = 68 |
|    | 12 - 3 - 4 - 5 + 67 - 8 + 9 = 68    |
| 68 | 1 + 2 - 3 + 4 + 56 + 7 - 8 + 9 = 68 |
|    | 12 - 3 + 45 + 6 + 7 - 8 + 9 = 68    |
|    | 1 - 2 + 3 - 4 - 5 + 6 + 78 - 9 = 68 |
|    | 1 - 2 - 3 + 4 + 5 - 6 + 78 - 9 = 68 |
|    | 1 + 2 + 3 + 4 - 5 - 6 + 78 - 9 = 68 |
|    | 1 - 2 + 3 + 4 + 56 + 7 + 8 - 9 = 68 |
|    | 1 + 23 - 4 + 56 - 7 + 8 - 9 = 68    |
|    | 12 - 3 + 4 + 5 + 67 - 8 - 9 = 68    |
| 69 | 1 - 2 + 3 + 45 - 67 + 89 = 69       |
|    | 1 + 23 - 45 - 6 + 7 + 89 = 69       |
|    | 1 - 23 - 4 + 5 - 6 + 7 + 89 = 69    |
|    | 1 - 2 + 3 - 4 - 5 - 6 - 7 + 89 = 69 |
|    | 123 + 4 + 5 + 6 - 78 + 9 = 69       |
|    |                                     |

|    | 1 + 2 + 3 + 45 - 6 + 7 + 8 + 9 = 69 |
|----|-------------------------------------|
|    | 12 + 34 + 5 - 6 + 7 + 8 + 9 = 69    |
|    | 1 + 2 - 3 - 4 + 5 + 67 - 8 + 9 = 69 |
|    | 1 - 2 + 3 + 4 - 5 + 67 - 8 + 9 = 69 |
|    | 12 - 3 - 4 + 56 + 7 - 8 + 9 = 69    |
|    | 12 + 3 + 4 + 56 - 7 - 8 + 9 = 69    |
|    | 1 + 23 + 45 + 6 - 7 - 8 + 9 = 69    |
|    | 12 + 3 - 4 - 5 - 6 + 78 - 9 = 69    |
|    | 1 - 2 + 3 - 4 + 5 + 67 + 8 - 9 = 69 |
|    | 123 - 4 - 56 + 7 + 8 - 9 = 69       |
|    | 1 + 23 + 45 - 6 + 7 + 8 - 9 = 69    |
|    | 1 + 2 + 34 + 56 - 7 - 8 - 9 = 69    |
|    | 1 - 23 + 4 - 5 + 6 + 78 + 9 = 70    |
|    | 1 + 2 - 3 + 4 + 56 - 7 + 8 + 9 = 70 |
|    | 12 - 3 + 45 + 6 - 7 + 8 + 9 = 70    |
| 70 | 1 - 2 + 3 + 4 + 56 + 7 - 8 + 9 = 70 |
|    | 1 + 23 - 4 + 56 - 7 - 8 + 9 = 70    |
|    | 1 - 2 - 3 + 4 - 5 + 6 + 78 - 9 = 70 |
|    | 1 + 2 + 3 - 4 + 5 - 6 + 78 - 9 = 70 |
| 71 | 1 - 23 - 4 - 5 + 6 + 7 + 89 = 71    |
|    | 12 - 34 + 5 + 6 - 7 + 89 = 71       |
|    | 1 - 2 - 3 + 4 - 5 - 6 - 7 + 89 = 71 |
|    | 1 - 23 + 4 + 5 + 67 + 8 + 9 = 71    |
|    | 1 - 2 - 3 - 4 - 5 + 67 + 8 + 9 = 71 |
|    | 1 - 2 - 3 + 45 + 6 + 7 + 8 + 9 = 71 |
|    | 12 + 34 - 5 + 6 + 7 + 8 + 9 = 71    |
|    | 12 - 3 - 4 + 56 - 7 + 8 + 9 = 71    |
|    | 1 - 2 + 3 - 4 + 5 + 67 - 8 + 9 = 71 |
|    | 123 - 4 - 56 + 7 - 8 + 9 = 71       |
|    | 1 + 23 + 45 - 6 + 7 - 8 + 9 = 71    |
|    | 12 - 3 + 4 - 5 - 6 + 78 - 9 = 71    |
|    |                                     |

|    | 1 - 2 - 3 + 4 + 5 + 67 + 8 - 9 = 71 |
|----|-------------------------------------|
|    | 1 + 2 + 3 + 4 - 5 + 67 + 8 - 9 = 71 |
|    | 12 + 3 - 45 + 6 + 7 + 89 = 72       |
|    | 1 - 2 - 34 + 5 + 6 + 7 + 89 = 72    |
|    | 12 + 34 - 56 - 7 + 89 = 72          |
|    | 1 + 23 - 45 + 6 + 78 + 9 = 72       |
|    | 1 - 23 - 4 + 5 + 6 + 78 + 9 = 72    |
|    | 1 + 2 - 3 - 4 - 5 - 6 + 78 + 9 = 72 |
|    | 123 + 4 - 5 - 67 + 8 + 9 = 72       |
|    | 1 - 2 - 3 - 4 + 56 + 7 + 8 + 9 = 72 |
| 72 | 1 + 2 + 34 + 5 + 6 + 7 + 8 + 9 = 72 |
|    | 12 - 3 + 45 - 6 + 7 + 8 + 9 = 72    |
|    | 1 - 2 + 3 + 4 + 56 - 7 + 8 + 9 = 72 |
|    | 1 - 2 - 3 - 4 + 5 + 6 + 78 - 9 = 72 |
|    | 1 + 2 + 3 - 4 - 5 + 6 + 78 - 9 = 72 |
|    | 1 + 2 - 3 + 4 + 5 - 6 + 78 - 9 = 72 |
|    | 12 + 3 - 4 - 5 + 67 + 8 - 9 = 72    |
|    | 1 + 2 + 3 + 4 + 56 + 7 + 8 - 9 = 72 |
|    | 12 + 3 + 45 + 6 + 7 + 8 - 9 = 72    |
| 73 | 1 + 2 + 3 + 45 - 67 + 89 = 73       |
|    | 12 + 34 + 5 - 67 + 89 = 73          |
|    | 1 - 2 + 34 - 56 + 7 + 89 = 73       |
|    | 12 - 34 + 5 - 6 + 7 + 89 = 73       |
|    | 1 - 2 - 3 - 4 + 5 - 6 - 7 + 89 = 73 |
|    | 1 + 2 + 3 - 4 - 5 - 6 - 7 + 89 = 73 |
|    | 123 - 4 - 56 - 7 + 8 + 9 = 73       |
|    | 1 + 23 + 45 - 6 - 7 + 8 + 9 = 73    |
|    | 1 - 2 - 3 + 4 + 5 + 67 - 8 + 9 = 73 |
|    | 1 + 2 + 3 + 4 - 5 + 67 - 8 + 9 = 73 |
|    | 12 - 3 - 4 + 5 - 6 + 78 - 9 = 73    |
|    | 1 + 2 + 3 - 4 + 5 + 67 + 8 - 9 = 73 |
|    |                                     |

|    | 12 + 3 - 4 + 56 + 7 + 8 - 9 = 73    |
|----|-------------------------------------|
|    | 1 - 23 + 45 + 67 - 8 - 9 = 73       |
|    | 1 + 23 + 4 - 5 + 67 - 8 - 9 = 73    |
|    | 1 + 234 - 5 - 67 - 89 = 74          |
|    | 1 - 2 + 3 - 4 - 5 - 6 + 78 + 9 = 74 |
|    | 123 - 4 + 5 - 67 + 8 + 9 = 74       |
|    | 12 + 3 - 4 - 5 + 67 - 8 + 9 = 74    |
|    | 1 + 2 + 3 + 4 + 56 + 7 - 8 + 9 = 74 |
| 74 | 12 + 3 + 45 + 6 + 7 - 8 + 9 = 74    |
| 74 | 1 + 2 - 3 + 4 - 5 + 6 + 78 - 9 = 74 |
|    | 1 - 2 + 3 + 4 + 5 - 6 + 78 - 9 = 74 |
|    | 12 - 3 + 4 - 5 + 67 + 8 - 9 = 74    |
|    | 12 + 3 + 4 + 5 + 67 - 8 - 9 = 74    |
|    | 1 + 23 + 4 + 56 + 7 - 8 - 9 = 74    |
|    | 123 - 45 + 6 + 7 - 8 - 9 = 74       |
|    | 12 - 34 - 5 + 6 + 7 + 89 = 75       |
|    | 1 - 23 + 4 + 5 + 6 - 7 + 89 = 75    |
|    | 1 - 2 - 3 - 4 - 5 + 6 - 7 + 89 = 75 |
|    | 1 + 2 - 3 + 4 - 5 - 6 - 7 + 89 = 75 |
|    | 1 + 2 - 3 - 4 - 5 + 67 + 8 + 9 = 75 |
|    | 1 + 2 - 3 + 45 + 6 + 7 + 8 + 9 = 75 |
| 75 | 1 + 2 + 3 - 4 + 5 + 67 - 8 + 9 = 75 |
|    | 12 + 3 - 4 + 56 + 7 - 8 + 9 = 75    |
|    | 12 - 3 - 4 - 5 + 6 + 78 - 9 = 75    |
|    | 123 + 45 - 6 - 78 - 9 = 75          |
|    | 1 + 2 - 3 + 4 + 5 + 67 + 8 - 9 = 75 |
|    | 12 - 3 + 4 + 56 + 7 + 8 - 9 = 75    |
|    | 1 + 23 - 4 + 5 + 67 - 8 - 9 = 75    |
| 76 | 12 - 3 + 45 - 67 + 89 = 76          |
|    | 1 + 2 - 34 + 5 + 6 + 7 + 89 = 76    |
|    | 12 - 3 - 4 - 5 - 6 - 7 + 89 = 76    |
|    |                                     |

|    | 12 - 34 + 5 + 6 + 78 + 9 = 76       |
|----|-------------------------------------|
|    | 1 - 2 - 3 + 4 - 5 - 6 + 78 + 9 = 76 |
|    | 1 + 2 - 3 - 4 + 56 + 7 + 8 + 9 = 76 |
|    | 1 + 2 + 3 + 4 + 56 - 7 + 8 + 9 = 76 |
|    | 12 + 3 + 45 + 6 - 7 + 8 + 9 = 76    |
|    | 12 - 3 + 4 - 5 + 67 - 8 + 9 = 76    |
|    | 1 + 2 - 3 - 4 + 5 + 6 + 78 - 9 = 76 |
|    | 1 - 2 + 3 + 4 - 5 + 6 + 78 - 9 = 76 |
|    | 12 - 3 - 4 + 5 + 67 + 8 - 9 = 76    |
|    | 1 + 23 + 4 + 56 - 7 + 8 - 9 = 76    |
|    | 123 - 45 + 6 - 7 + 8 - 9 = 76       |
|    | 1 + 2 + 34 - 56 + 7 + 89 = 77       |
|    | 1 - 23 + 4 + 5 - 6 + 7 + 89 = 77    |
|    | 1 - 2 - 3 - 4 - 5 - 6 + 7 + 89 = 77 |
|    | 1 + 2 - 3 - 4 + 5 - 6 - 7 + 89 = 77 |
|    | 1 - 2 + 3 + 4 - 5 - 6 - 7 + 89 = 77 |
|    | 12 + 34 - 56 + 78 + 9 = 77          |
| 77 | 1 - 2 + 3 - 4 - 5 + 67 + 8 + 9 = 77 |
| ,, | 1 - 2 + 3 + 45 + 6 + 7 + 8 + 9 = 77 |
|    | 12 + 3 - 4 + 56 - 7 + 8 + 9 = 77    |
|    | 1 + 2 - 3 + 4 + 5 + 67 - 8 + 9 = 77 |
|    | 12 - 3 + 4 + 56 + 7 - 8 + 9 = 77    |
|    | 12 + 3 + 4 - 5 - 6 + 78 - 9 = 77    |
|    | 1 - 2 + 3 + 4 + 5 + 67 + 8 - 9 = 77 |
|    | 123 + 4 - 56 + 7 + 8 - 9 = 77       |
| 78 | 123 + 45 + 6 - 7 - 89 = 78          |
|    | 1 - 2 - 3 - 4 + 5 - 6 + 78 + 9 = 78 |
|    | 1 + 2 + 3 - 4 - 5 - 6 + 78 + 9 = 78 |
|    | 1 - 2 + 3 - 4 + 56 + 7 + 8 + 9 = 78 |
|    | 12 + 3 + 45 - 6 + 7 + 8 + 9 = 78    |
|    | 12 - 3 - 4 + 5 + 67 - 8 + 9 = 78    |
|    |                                     |

|    | 1 + 23 + 4 + 56 - 7 - 8 + 9 = 78    |
|----|-------------------------------------|
|    | 123 - 45 + 6 - 7 - 8 + 9 = 78       |
|    | 1 - 2 + 3 - 4 + 5 + 6 + 78 - 9 = 78 |
|    | 1 + 2 + 3 + 4 + 5 - 6 + 78 - 9 = 78 |
|    | 1 + 23 - 4 - 5 - 6 + 78 - 9 = 78    |
|    | 123 - 45 - 6 + 7 + 8 - 9 = 78       |
|    | 1 - 2 + 34 - 5 + 67 - 8 - 9 = 78    |
|    | 12 + 34 + 56 - 7 - 8 - 9 = 78       |
|    | 1 - 23 + 4 - 5 + 6 + 7 + 89 = 79    |
|    | 1 + 2 - 3 - 4 - 5 + 6 - 7 + 89 = 79 |
|    | 1 - 2 + 3 - 4 + 5 - 6 - 7 + 89 = 79 |
|    | 123 - 4 + 56 - 7 - 89 = 79          |
| 79 | 1 - 2 - 3 + 4 - 5 + 67 + 8 + 9 = 79 |
| 79 | 12 - 3 + 4 + 56 - 7 + 8 + 9 = 79    |
|    | 1 - 2 + 3 + 4 + 5 + 67 - 8 + 9 = 79 |
|    | 123 + 4 - 56 + 7 - 8 + 9 = 79       |
|    | 12 + 3 - 4 + 5 - 6 + 78 - 9 = 79    |
|    | 1 - 2 + 34 + 56 + 7 - 8 - 9 = 79    |
|    | 123 + 45 - 6 + 7 - 89 = 80          |
|    | 1 - 23 + 4 + 5 + 6 + 78 + 9 = 80    |
|    | 1 - 2 - 3 - 4 - 5 + 6 + 78 + 9 = 80 |
|    | 1 + 2 - 3 + 4 - 5 - 6 + 78 + 9 = 80 |
| 80 | 1 - 2 - 3 + 4 + 56 + 7 + 8 + 9 = 80 |
|    | 123 - 45 - 6 + 7 - 8 + 9 = 80       |
|    | 1 - 2 - 3 + 4 + 5 + 6 + 78 - 9 = 80 |
|    | 1 + 2 + 3 + 4 - 5 + 6 + 78 - 9 = 80 |
|    | 12 + 3 + 4 - 5 + 67 + 8 - 9 = 80    |
| 81 | 1 + 23 - 45 + 6 + 7 + 89 = 81       |
|    | 1 - 23 - 4 + 5 + 6 + 7 + 89 = 81    |
|    | 1 + 2 - 3 - 4 - 5 - 6 + 7 + 89 = 81 |
|    | 1 - 2 + 3 - 4 - 5 + 6 - 7 + 89 = 81 |
|    |                                     |

|         | 1 - 2 - 3 + 4 + 5 - 6 - 7 + 89 = 81 |
|---------|-------------------------------------|
|         | 1 + 2 + 3 + 4 - 5 - 6 - 7 + 89 = 81 |
|         | 12 - 3 - 4 - 5 - 6 + 78 + 9 = 81    |
|         | 1 - 2 - 3 - 4 + 5 + 67 + 8 + 9 = 81 |
|         | 1 + 2 + 3 - 4 - 5 + 67 + 8 + 9 = 81 |
|         | 1 + 2 + 3 + 45 + 6 + 7 + 8 + 9 = 81 |
|         | 12 + 34 + 5 + 6 + 7 + 8 + 9 = 81    |
|         | 123 + 4 - 56 - 7 + 8 + 9 = 81       |
|         | 12 + 3 - 4 - 5 + 6 + 78 - 9 = 81    |
|         | 12 - 3 + 4 + 5 - 6 + 78 - 9 = 81    |
|         | 1 + 2 + 3 + 4 + 5 + 67 + 8 - 9 = 81 |
|         | 1 + 23 - 4 - 5 + 67 + 8 - 9 = 81    |
|         | 12 + 3 + 4 + 56 + 7 + 8 - 9 = 81    |
|         | 1 + 23 + 45 + 6 + 7 + 8 - 9 = 81    |
|         | 1 - 2 + 34 + 56 - 7 + 8 - 9 = 81    |
|         | 12 + 3 + 45 - 67 + 89 = 82          |
|         | 12 + 3 - 4 - 5 - 6 - 7 + 89 = 82    |
|         | 1 + 2 - 3 - 4 + 5 - 6 + 78 + 9 = 82 |
|         | 1 - 2 + 3 + 4 - 5 - 6 + 78 + 9 = 82 |
|         | 123 + 4 + 5 - 67 + 8 + 9 = 82       |
| 82      | 1 + 2 + 3 - 4 + 56 + 7 + 8 + 9 = 82 |
| <u></u> | 123 - 45 - 6 - 7 + 8 + 9 = 82       |
|         | 12 + 3 + 4 - 5 + 67 - 8 + 9 = 82    |
|         | 1 + 2 + 3 - 4 + 5 + 6 + 78 - 9 = 82 |
|         | 12 + 3 - 4 + 5 + 67 + 8 - 9 = 82    |
|         | 1 + 23 - 4 + 56 + 7 + 8 - 9 = 82    |
|         | 1 + 2 + 34 - 5 + 67 - 8 - 9 = 82    |
| 83      | 1 - 2 + 3 - 4 - 5 - 6 + 7 + 89 = 83 |
|         | 1 - 2 - 3 + 4 - 5 + 6 - 7 + 89 = 83 |
|         | 1 + 2 + 3 - 4 + 5 - 6 - 7 + 89 = 83 |
|         | 1 + 234 - 56 - 7 - 89 = 83          |
|         |                                     |

|    | 1 + 2 - 3 + 4 - 5 + 67 + 8 + 9 = 83 |
|----|-------------------------------------|
|    | 1 + 2 + 3 + 4 + 5 + 67 - 8 + 9 = 83 |
|    | 1 + 23 - 4 - 5 + 67 - 8 + 9 = 83    |
|    | 12 + 3 + 4 + 56 + 7 - 8 + 9 = 83    |
|    | 1 + 23 + 45 + 6 + 7 - 8 + 9 = 83    |
|    | 1 - 2 + 34 + 56 - 7 - 8 + 9 = 83    |
|    | 12 - 3 + 4 - 5 + 6 + 78 - 9 = 83    |
|    | 1 + 23 + 4 + 5 + 67 - 8 - 9 = 83    |
|    | 1 + 2 + 34 + 56 + 7 - 8 - 9 = 83    |
|    | 12 - 3 + 4 - 5 - 6 - 7 + 89 = 84    |
|    | 1 + 234 + 5 - 67 - 89 = 84          |
|    | 1 + 2 - 3 - 4 - 5 + 6 + 78 + 9 = 84 |
|    | 1 - 2 + 3 - 4 + 5 - 6 + 78 + 9 = 84 |
|    | 12 - 3 - 4 - 5 + 67 + 8 + 9 = 84    |
|    | 1 + 2 - 3 + 4 + 56 + 7 + 8 + 9 = 84 |
| 84 | 12 - 3 + 45 + 6 + 7 + 8 + 9 = 84    |
|    | 12 + 3 - 4 + 5 + 67 - 8 + 9 = 84    |
|    | 1 + 23 - 4 + 56 + 7 - 8 + 9 = 84    |
|    | 1 + 2 - 3 + 4 + 5 + 6 + 78 - 9 = 84 |
|    | 12 - 3 + 4 + 5 + 67 + 8 - 9 = 84    |
|    | 123 + 45 - 67 - 8 - 9 = 84          |
|    | 123 - 4 - 5 - 6 - 7 - 8 - 9 = 84    |
| 85 | 12 - 34 + 5 + 6 + 7 + 89 = 85       |
|    | 1 - 2 - 3 + 4 - 5 - 6 + 7 + 89 = 85 |
|    | 1 - 2 - 3 - 4 + 5 + 6 - 7 + 89 = 85 |
|    | 1 + 2 + 3 - 4 - 5 + 6 - 7 + 89 = 85 |
|    | 1 + 2 - 3 + 4 + 5 - 6 - 7 + 89 = 85 |
|    | 1 + 2 - 3 - 4 + 5 + 67 + 8 + 9 = 85 |
|    | 1 - 2 + 3 + 4 - 5 + 67 + 8 + 9 = 85 |
|    | 12 - 3 - 4 + 56 + 7 + 8 + 9 = 85    |
|    | 12 + 3 + 4 + 56 - 7 + 8 + 9 = 85    |
|    |                                     |

|    | 1 + 23 + 45 + 6 - 7 + 8 + 9 = 85    |
|----|-------------------------------------|
|    | 12 - 3 - 4 + 5 + 6 + 78 - 9 = 85    |
|    | 1 + 2 + 34 + 56 - 7 + 8 - 9 = 85    |
|    | 12 + 34 - 56 + 7 + 89 = 86          |
|    | 12 - 3 - 4 + 5 - 6 - 7 + 89 = 86    |
|    | 1 - 2 + 3 - 4 - 5 + 6 + 78 + 9 = 86 |
|    | 1 - 2 - 3 + 4 + 5 - 6 + 78 + 9 = 86 |
|    | 1 + 2 + 3 + 4 - 5 - 6 + 78 + 9 = 86 |
| 86 | 1 - 2 + 3 + 4 + 56 + 7 + 8 + 9 = 86 |
|    | 1 + 23 - 4 + 56 - 7 + 8 + 9 = 86    |
|    | 12 - 3 + 4 + 5 + 67 - 8 + 9 = 86    |
|    | 1 - 2 + 3 + 4 + 5 + 6 + 78 - 9 = 86 |
|    | 1 - 23 + 45 - 6 + 78 - 9 = 86       |
|    | 1 + 23 + 4 - 5 - 6 + 78 - 9 = 86    |
|    | 1 - 2 - 3 - 4 + 5 - 6 + 7 + 89 = 87 |
|    | 1 + 2 + 3 - 4 - 5 - 6 + 7 + 89 = 87 |
|    | 1 + 2 - 3 + 4 - 5 + 6 - 7 + 89 = 87 |
|    | 1 - 2 + 3 + 4 + 5 - 6 - 7 + 89 = 87 |
|    | 123 + 4 + 56 - 7 - 89 = 87          |
| 87 | 12 + 3 - 4 - 5 - 6 + 78 + 9 = 87    |
| 67 | 1 - 2 + 3 - 4 + 5 + 67 + 8 + 9 = 87 |
|    | 123 - 4 - 56 + 7 + 8 + 9 = 87       |
|    | 1 + 23 + 45 - 6 + 7 + 8 + 9 = 87    |
|    | 1 + 2 + 34 + 56 - 7 - 8 + 9 = 87    |
|    | 12 + 3 + 4 + 5 - 6 + 78 - 9 = 87    |
|    | 123 + 45 + 6 - 78 - 9 = 87          |
| 88 | 12 - 3 - 4 - 5 + 6 - 7 + 89 = 88    |
|    | 1 - 2 - 3 + 4 - 5 + 6 + 78 + 9 = 88 |
|    | 1 + 2 + 3 - 4 + 5 - 6 + 78 + 9 = 88 |
|    | 1 + 23 - 4 + 5 - 6 + 78 - 9 = 88    |
|    | 123 - 4 + 56 - 78 - 9 = 88          |
|    |                                     |

|    | 1 - 2 + 34 + 5 + 67 - 8 - 9 = 88    |
|----|-------------------------------------|
|    | 1 - 23 - 45 + 67 + 89 = 89          |
|    | 1 - 23 + 4 + 5 + 6 + 7 + 89 = 89    |
|    | 1 - 2 - 3 - 4 - 5 + 6 + 7 + 89 = 89 |
|    | 1 + 2 - 3 + 4 - 5 - 6 + 7 + 89 = 89 |
|    | 1 + 2 - 3 - 4 + 5 + 6 - 7 + 89 = 89 |
| 89 | 1 - 2 + 3 + 4 - 5 + 6 - 7 + 89 = 89 |
| 69 | 12 - 3 + 4 - 5 - 6 + 78 + 9 = 89    |
|    | 1 - 2 - 3 + 4 + 5 + 67 + 8 + 9 = 89 |
|    | 1 + 2 + 3 + 4 - 5 + 67 + 8 + 9 = 89 |
|    | 12 + 3 + 4 - 5 + 6 + 78 - 9 = 89    |
|    | 1 - 23 + 45 + 67 + 8 - 9 = 89       |
|    | 1 + 23 + 4 - 5 + 67 + 8 - 9 = 89    |
|    | 12 - 3 - 4 - 5 - 6 + 7 + 89 = 90    |
|    | 12 + 3 + 4 - 5 - 6 - 7 + 89 = 90    |
|    | 1 - 2 - 3 - 4 + 5 + 6 + 78 + 9 = 90 |
|    | 1 + 2 + 3 - 4 - 5 + 6 + 78 + 9 = 90 |
|    | 1 + 2 - 3 + 4 + 5 - 6 + 78 + 9 = 90 |
|    | 12 + 3 - 4 - 5 + 67 + 8 + 9 = 90    |
| 90 | 1 + 2 + 3 + 4 + 56 + 7 + 8 + 9 = 90 |
| 90 | 12 + 3 + 45 + 6 + 7 + 8 + 9 = 90    |
|    | 1 - 2 - 34 + 56 + 78 - 9 = 90       |
|    | 1 + 2 + 3 + 4 + 5 + 6 + 78 - 9 = 90 |
|    | 1 + 23 - 4 - 5 + 6 + 78 - 9 = 90    |
|    | 12 + 3 + 4 + 5 + 67 + 8 - 9 = 90    |
|    | 1 + 23 + 4 + 56 + 7 + 8 - 9 = 90    |
|    | 123 - 45 + 6 + 7 + 8 - 9 = 90       |
| 91 | 1 + 23 + 45 - 67 + 89 = 91          |
|    | 1 + 2 - 3 - 4 + 5 - 6 + 7 + 89 = 91 |
|    | 1 - 2 + 3 + 4 - 5 - 6 + 7 + 89 = 91 |
|    | 1 - 2 + 3 - 4 + 5 + 6 - 7 + 89 = 91 |
|    |                                     |

|    | 1 + 2 + 3 + 4 + 5 - 6 - 7 + 89 = 91 |
|----|-------------------------------------|
|    | 1 + 23 - 4 - 5 - 6 - 7 + 89 = 91    |
|    | 12 - 3 - 4 + 5 - 6 + 78 + 9 = 91    |
|    | 1 + 2 + 3 - 4 + 5 + 67 + 8 + 9 = 91 |
|    | 12 + 3 - 4 + 56 + 7 + 8 + 9 = 91    |
|    | 1 - 23 + 45 + 67 - 8 + 9 = 91       |
|    | 1 + 23 + 4 - 5 + 67 - 8 + 9 = 91    |
|    | 12 + 3 - 4 + 5 + 6 + 78 - 9 = 91    |
|    | 1 - 2 + 34 - 5 - 6 + 78 - 9 = 91    |
|    | 1 + 23 - 4 + 5 + 67 + 8 - 9 = 91    |
|    | 1 - 2 - 3 + 45 + 67 - 8 - 9 = 91    |
|    | 12 + 34 - 5 + 67 - 8 - 9 = 91       |
|    | 12 + 3 - 4 + 5 - 6 - 7 + 89 = 92    |
|    | 123 - 4 - 5 + 67 - 89 = 92          |
|    | 123 + 45 + 6 + 7 - 89 = 92          |
|    | 1 + 2 - 3 + 4 - 5 + 6 + 78 + 9 = 92 |
|    | 1 - 2 + 3 + 4 + 5 - 6 + 78 + 9 = 92 |
|    | 12 - 3 + 4 - 5 + 67 + 8 + 9 = 92    |
| 92 | 12 + 3 + 4 + 5 + 67 - 8 + 9 = 92    |
|    | 1 + 23 + 4 + 56 + 7 - 8 + 9 = 92    |
|    | 123 - 45 + 6 + 7 - 8 + 9 = 92       |
|    | 1 + 234 - 56 - 78 - 9 = 92          |
|    | 1 + 2 + 34 + 5 + 67 - 8 - 9 = 92    |
|    | 12 + 34 + 56 + 7 - 8 - 9 = 92       |
|    | 123 + 4 - 5 - 6 - 7 - 8 - 9 = 92    |
| 93 | 1 + 2 - 3 - 4 - 5 + 6 + 7 + 89 = 93 |
|    | 1 - 2 + 3 - 4 + 5 - 6 + 7 + 89 = 93 |
|    | 1 - 2 - 3 + 4 + 5 + 6 - 7 + 89 = 93 |
|    | 1 + 2 + 3 + 4 - 5 + 6 - 7 + 89 = 93 |
|    | 123 - 4 + 56 + 7 - 89 = 93          |
|    | 12 - 3 - 4 - 5 + 6 + 78 + 9 = 93    |
|    |                                     |

|    | 123 + 45 - 6 - 78 + 9 = 93          |
|----|-------------------------------------|
|    | 1 + 2 - 3 + 4 + 5 + 67 + 8 + 9 = 93 |
|    | 12 - 3 + 4 + 56 + 7 + 8 + 9 = 93    |
|    | 1 + 23 - 4 + 5 + 67 - 8 + 9 = 93    |
|    | 12 - 3 + 4 + 5 + 6 + 78 - 9 = 93    |
|    | 12 + 3 - 4 - 5 + 6 - 7 + 89 = 94    |
|    | 12 - 3 + 4 + 5 - 6 - 7 + 89 = 94    |
|    | 1 + 2 - 3 - 4 + 5 + 6 + 78 + 9 = 94 |
|    | 1 - 2 + 3 + 4 - 5 + 6 + 78 + 9 = 94 |
|    | 12 - 3 - 4 + 5 + 67 + 8 + 9 = 94    |
| 94 | 1 + 23 + 4 + 56 - 7 + 8 + 9 = 94    |
|    | 123 - 45 + 6 - 7 + 8 + 9 = 94       |
|    | 1 + 2 - 34 + 56 + 78 - 9 = 94       |
|    | 1 - 2 + 34 - 5 + 67 + 8 - 9 = 94    |
|    | 12 + 34 + 56 - 7 + 8 - 9 = 94       |
|    | 123 - 4 + 5 - 6 - 7 - 8 - 9 = 94    |
|    | 1 - 2 + 3 - 4 - 5 + 6 + 7 + 89 = 95 |
|    | 1 - 2 - 3 + 4 + 5 - 6 + 7 + 89 = 95 |
|    | 1 + 2 + 3 + 4 - 5 - 6 + 7 + 89 = 95 |
|    | 1 + 2 + 3 - 4 + 5 + 6 - 7 + 89 = 95 |
| 05 | 12 + 3 + 4 - 5 - 6 + 78 + 9 = 95    |
| 95 | 1 - 2 + 3 + 4 + 5 + 67 + 8 + 9 = 95 |
|    | 123 + 4 - 56 + 7 + 8 + 9 = 95       |
|    | 1 + 2 + 34 - 5 - 6 + 78 - 9 = 95    |
|    | 1 - 2 + 34 + 56 + 7 + 8 - 9 = 95    |
|    | 1 + 2 - 3 + 45 + 67 - 8 - 9 = 95    |
| 96 | 12 + 3 - 4 - 5 - 6 + 7 + 89 = 96    |
|    | 12 - 3 + 4 - 5 + 6 - 7 + 89 = 96    |
|    | 1 - 2 + 3 - 4 + 5 + 6 + 78 + 9 = 96 |
|    | 1 + 2 + 3 + 4 + 5 - 6 + 78 + 9 = 96 |
|    | 1 + 23 - 4 - 5 - 6 + 78 + 9 = 96    |
|    |                                     |

|    | 123 - 45 - 6 + 7 + 8 + 9 = 96       |
|----|-------------------------------------|
|    | 1 - 2 + 34 - 5 + 67 - 8 + 9 = 96    |
|    | 12 + 34 + 56 - 7 - 8 + 9 = 96       |
|    | 1 + 23 + 4 + 5 - 6 + 78 - 9 = 96    |
|    | 123 + 4 + 56 - 78 - 9 = 96          |
|    | 123 - 4 - 5 + 6 - 7 - 8 - 9 = 96    |
|    | 1 - 2 - 3 + 4 - 5 + 6 + 7 + 89 = 97 |
|    | 1 + 2 + 3 - 4 + 5 - 6 + 7 + 89 = 97 |
|    | 1 + 2 - 3 + 4 + 5 + 6 - 7 + 89 = 97 |
| 97 | 1 + 234 - 56 + 7 - 89 = 97          |
|    | 12 + 3 - 4 + 5 - 6 + 78 + 9 = 97    |
|    | 1 - 2 + 34 + 56 + 7 - 8 + 9 = 97    |
|    | 1 - 2 + 3 + 45 + 67 - 8 - 9 = 97    |
|    | 12 - 3 + 4 - 5 - 6 + 7 + 89 = 98    |
|    | 12 - 3 - 4 + 5 + 6 - 7 + 89 = 98    |
|    | 1 - 2 - 3 + 4 + 5 + 6 + 78 + 9 = 98 |
|    | 1 + 2 + 3 + 4 - 5 + 6 + 78 + 9 = 98 |
| 98 | 12 + 3 + 4 - 5 + 67 + 8 + 9 = 98    |
|    | 1 - 23 + 45 + 6 + 78 - 9 = 98       |
|    | 1 + 23 + 4 - 5 + 6 + 78 - 9 = 98    |
|    | 1 + 2 + 34 - 5 + 67 + 8 - 9 = 98    |
|    | 123 - 4 - 5 - 6 + 7 - 8 - 9 = 98    |
| 99 | 1 - 2 - 3 - 4 + 5 + 6 + 7 + 89 = 99 |
|    | 1 + 2 + 3 - 4 - 5 + 6 + 7 + 89 = 99 |
|    | 1 + 2 - 3 + 4 + 5 - 6 + 7 + 89 = 99 |
|    | 1 - 2 + 3 + 4 + 5 + 6 - 7 + 89 = 99 |
|    | 1 - 23 + 45 - 6 - 7 + 89 = 99       |
|    | 1 + 23 + 4 - 5 - 6 - 7 + 89 = 99    |
|    | 12 + 3 - 4 - 5 + 6 + 78 + 9 = 99    |
|    | 12 - 3 + 4 + 5 - 6 + 78 + 9 = 99    |
|    | 1 + 2 + 3 + 4 + 5 + 67 + 8 + 9 = 99 |
|    |                                     |

|     | 1 + 23 - 4 - 5 + 67 + 8 + 9 = 99     |
|-----|--------------------------------------|
|     | 12 + 3 + 4 + 56 + 7 + 8 + 9 = 99     |
|     | 1 + 23 + 45 + 6 + 7 + 8 + 9 = 99     |
|     | 1 - 2 + 34 + 56 - 7 + 8 + 9 = 99     |
|     | 1 - 23 - 4 + 56 + 78 - 9 = 99        |
|     | 12 + 3 + 4 + 5 + 6 + 78 - 9 = 99     |
|     | 1 + 23 + 4 + 5 + 67 + 8 - 9 = 99     |
|     | 1 + 2 + 34 + 56 + 7 + 8 - 9 = 99     |
|     | 123 - 45 - 67 + 89 = 100             |
|     | 12 - 3 - 4 + 5 - 6 + 7 + 89 = 100    |
|     | 12 + 3 + 4 + 5 - 6 - 7 + 89 = 100    |
|     | 123 + 4 - 5 + 67 - 89 = 100          |
|     | 1 + 2 + 3 - 4 + 5 + 6 + 78 + 9 = 100 |
| 100 | 12 + 3 - 4 + 5 + 67 + 8 + 9 = 100    |
|     | 1 + 23 - 4 + 56 + 7 + 8 + 9 = 100    |
|     | 1 + 2 + 34 - 5 + 67 - 8 + 9 = 100    |
|     | 1 + 23 - 4 + 5 + 6 + 78 - 9 = 100    |
|     | 123 + 45 - 67 + 8 - 9 = 100          |
|     | 123 - 4 - 5 - 6 - 7 + 8 - 9 = 100    |
|     |                                      |