

Last name: First name: Group:

ANSWER SHEET TO BE HANDED IN**Exercise 1**

| Instruction | Memory | Register |
|----------------------------|---|------------------------------------|
| Example | \$005000 54 AF 00 40 E7 21 48 C0 | A0 = \$00005004 A1 = \$0000500C |
| Example | \$005008 C9 10 11 C8 D4 36 FF 88 | No change |
| MOVE.W \$5006,(A1)+ | \$005008 48 C0 11 C8 D4 36 1F 88 | A1 = \$0000500A |
| MOVE.W #36,4(A1) | \$005008 C9 10 11 C8 00 24 1F 88 | No change |
| MOVE.B 3(A2),-4(A1,D1.L) | \$005008 80 10 11 C8 D4 36 1F 88 | No change |
| MOVE.L -8(A1),-32(A1,D0.W) | \$005008 54 AF 18 B9 D4 36 1F 88 | No change |

Exercise 2

| Operation | Size (bits) | Result (hexadecimal) | N | Z | V | C |
|-------------------------|-------------|----------------------|---|---|---|---|
| \$5A + \$A5 | 8 | \$FF | 1 | 0 | 0 | 0 |
| \$7F8C + \$2000 | 16 | \$9F8C | 1 | 0 | 1 | 0 |
| \$FFFFFFFF + \$FFFFFFFF | 32 | \$FFFFFFFFE | 1 | 0 | 0 | 1 |

Exercise 3

| Values of registers after the execution of the program. Use the 32-bit hexadecimal representation. | |
|---|------------------------|
| D1 = \$00000001 | D3 = \$00000032 |
| D2 = \$00000002 | D4 = \$00001011 |

Exercise 4

```

IsNumber      move.l  a0,-(a7)

\loop         move.b  (a0)+,d0
              beq     \number

              cmpi.b  #'0',d0
              blo     \notANumber

              cmpi.b  #'9',d0
              bhs     \loop

\notANumber   moveq.l  #1,d0
              bra     \quit

\number      clr.l    d0
\quit        movea.l  (a7)+,a0
              rts

```

```

GetSum        movem.l a0/d1,-(a7)

              clr.l   d0
              clr.l   d1

\loop         move.b  (a0)+,d1
              beq     \quit

              sub.b   #'0',d1
              add.l   d1,d0
              bra     \loop

\quit        movem.l (a7)+,a0/d1
              rts

```

```

Checksum      jsr     IsNumber
              tst.l   d0
              bne     \notANumber

\number       jsr     GetSum
              move.l  d0,d1
              clr.l   d0
              rts

\notANumber   clr.l   d1
              rts

```