

Exercise

2a) 456789A₁₆

	10 ₁₆	11 ₁₆	12 ₁₆	13 ₁₆
Big	45	67	89	A1
Little	A1	89	67	45

b) 0000058A₁₆

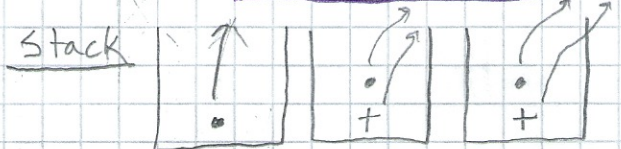
	10 ₁₆	11 ₁₆	12 ₁₆	13 ₁₆
Big	00	00	05	8A
Little	8A	05	00	00

c) 14148888₁₆

	10 ₁₆	11 ₁₆	12 ₁₆	13 ₁₆
Big	14	14	88	88
Little	88	88	14	14

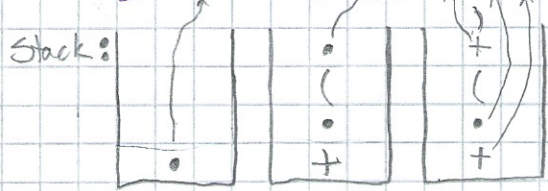
8a) $X \cdot Y + W \cdot Z + V \cdot U$

Postfix: $XY \cdot WZ \cdot + VU \cdot +$



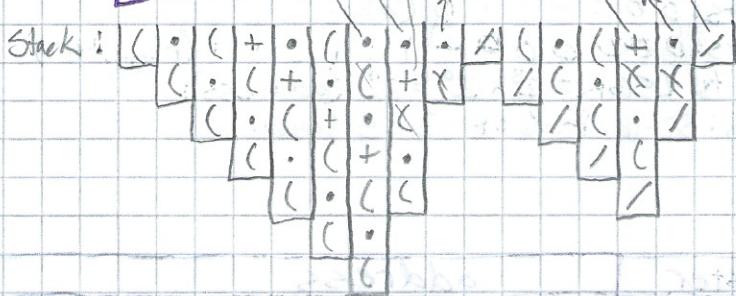
b) $W \cdot X + W \cdot (U \cdot V + Z)$

Postfix: $WX \cdot WUV \cdot Z + \cdot +$



c) $(W \cdot (X + Y \cdot (U \cdot V))) / (U \cdot (X + Y))$

Postfix: $WXYUV \cdot + \cdot UXY + \cdot /$



Value	Address
000	000
000	000
000	000
000	000

Exercise

9 a) W X Y Z - + •

↑ ↑ ↑ ↑ ↑ ↑ ↑

Mirror: (Z - Y) + X • W

Stack: + - + •

• + •

•

Infix: $W \cdot (X + (Y - Z))$

b) U V W X Y Z + • + • +

↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑

Mirror: (Z + Y) • X + W • V + U

Stack: + • + • + + X +

+) + X) •

•) • • +

+ • + +

+)

•

+

Infix: $U + V \cdot (W + X \cdot (Y + Z))$

c) X Y Z + V W - • Z + +

↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑

X

X, Y, Z

X, (Y + Z)

X, (Y + Z), V

X, (Y + Z), V, W

X, (Y + Z), (V - W)

X, ((Y + Z) • (V - W))

X, ((Y + Z) • (V - W)), Z

X, (((Y + Z) • (V - W)) + Z)

$X + [((Y + Z) \cdot (V - W)) + Z]$

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Mode	Value Loaded into AC
Immediate	500
Direct	100
Indirect	600
Indexed	800

19 a) 3 bits: 000 - 110 (mode)

b) 6 bits: 000000 - 111011 (register)

c) 18 bits: 256K = $2^8 \times 2^{10} = 2^{18}$ (address)

d) 5 bits: $32 - 18 = 14 - 6 = 8 - 3 = 5$ (opcode)

opcode mode register address