**ACSL**

**American Computer Science League**

#### Contest #2

**2014 - 2015**

### Intermediate Division Solutions

# Prefix/Infix/Postfix

 $A^{2}+\frac{2B}{C}+\frac{A}{B+C}-\frac{A}{B}$ $\frac{2B}{C}$ = (↑ A 2) +( (\* 2 B) / C )+ (A / (+ B C) )– (/ A B)

 = ((↑ A 2) + (/ \* 2 B C) )+ (/ A+B C) – (/ A B)

 = (( + ↑ A 2 / \* 2 B C) + ( / A+ B C)) – (/ A B) )

 = ((+ + ↑ A 2 / \* 2 B C / A+B C) – ( / A B ))

 = − + + ↑ A 2 / \* 2 B C /A+B C / A B

1. As shown

AS SHOWN

# 2. Prefix/Infix/Postfix

a b – c / b ^ a – c 2 a \* 3 b \* - \* + = (3 (-2) -) 5 / (-2) ^ 3 - 5 (2 3 \*) (3 (-2) \*) - \* +

 = (5 5/) (-2) ^ 3 – 5 (6 (-6) -) \* +

 = (1 (-2) ^) 3 – (5 12 \*) +

 = (1 3 –) 60 +

 = -2 + 60

 = 58

**4. Bit-String Flicking**

(LCIRC-2(RSHIFT-1 01101)) OR (NOT(RCIRC-2(LSHIFT-1 01010)))

 =(LCIRC-2 00110) OR (NOT(RCIRC-2 10100))

 = 11000 OR (NOT 00101)

 = 11000 OR 11010

 = 11010

4. 11010

3. 10111

1. **Bit-String Flicking**

10101 OR (NOT 01001) AND (10110 OR 01110)

= 10101 OR 10110 AND 11110

= 10101 OR 10110

= 10111

1. **LISP**

(ADD(ADD 2 3)(MULT 4 5)(SUB 6 2)(EXP 2 3))

=(ADD 2+3 4\*5 6-2 23)

= 5 + 20 + 4 + 8

= 37

5. 37

2. 58