

**Computer Science I – Spring 2012**  
**Lab: Stack Applications – Infix/Postfix**

**Convert the following INFIX expressions into POSTFIX expressions using stacks (as shown in class).**

NOTE: There is a SPECIFIC way that these conversion problems are tested. The TA will do problem 1 for you and show you what is expected of you and what you can expect on a test.

You should keep a “WORKING” stack that you use to solve the problem. Then you will copy the contents of this working stack, when appropriate, into the given stacks (stacks A, B, and C).

$$1) \quad \overset{\text{A}}{44 - 15} / (\overset{\text{B}}{9 - 3 * 2}) + \overset{\text{C}}{12}$$

$$2) \quad \overset{\text{A}}{12 * (8 - 7 + 1)} - (\overset{\text{B}}{4 + 6}) / \overset{\text{C}}{2}$$

$$3) \quad (\overset{\text{A}}{3 + 8 + 5 - 10}) / \overset{\text{B}}{3 + 4} + \overset{\text{C}}{5 - 7}$$

$$4) \quad \overset{\text{A}}{14 - (6 - 10)} - \overset{\text{B}}{10}$$

$$5) \quad 16 - (\overset{\text{A}}{8 + (10 - 7 + 3)}) * \overset{\text{B}}{2 - 10} / (\overset{\text{C}}{(4 - 2) * 3 - 1})$$

**Evaluate the POSTFIX expressions that you just developed (after the conversion). Use the stack method that we discussed in class.**