

3) (10 pts) DSN (Stacks: Infix to Postfix Conversion)

Convert the following from an infix expression to a postfix expression. Show the state of the operator stack at each of the indicated points (A, B, and C):

14 + 18 * 9 - 3 + (4 - 8) * (9 - 6) / 2

^
^
^
A
B
C

*
+

A

(
+

B

*
+

C

Give the final postfix expression here:

14 18 9 * + 3 - 4 8 - 9 6 - * 2 / +

What is the final value of this postfix expression?

167

Grading (10 pts): 5 pts for the correct stack contents (give 1 pt for each symbol, but subtract a pt for each incorrect symbol, but then award a max of 5 and min of 0 pts for this part – no negative scores). 4 pts for correct postfix expression (-0.5 pts for each error, but take the floor of the number of points they earn for this part), and 1 pt for final value (167).