

Q # 1

$$A=7 \quad B=6 \quad C=5 \quad D=4 \quad E=3 \quad F=2 \quad G=1$$

~~$$A^2 - + - AB^*C + DE + FG$$~~

$$G^2 E + ED + C^*BA - + -$$

	$2+1=3$	$4+3=7$	$5 * 7 = 35$
2	4	5	6
1	3	7	35
3	3	3	3

2	$7-6=1$	$1+35=36$	$36-3=33$
6	1	36	33
35			
3			

Q# 1.

Convert to prefix and calculate output

$$((A - B) + C * (D + E)) - (F + G)$$

$$JG+F(-))E+D(*C+)B-A(($$

Input	Stack	Output
()	
G)	G
+)+	G
F)+	GF
()++t	GF+
-	-	GF+
)	-()	GF+
)	-())	GF+
E	-())	GF+E
+	-())+	GF+E
D	-())+	GF+ED
(-()++)t	GF+ED+
*	-()**	GF+ED+
C	-()**	GF+ED+C
+	-()++()	GF+ED+C*
)	-()++()	GF+ED+C*
B	-()++()	GF+ED+C*B
-	-()++()	GF+ED+C*B
A	-()++()	GF+ED+C*B
(-()++X-t	GF+ED+C*B
)	-X+t	GF+ED+C*B-
		GF+ED+C*B-
		GF+ED+C*B-

Reverse.

$$-+- \mathbf{AB^*C + DE + FG}$$

Q# 2

Convert to postfix and calculate.

$$A - B - C * (D + E / F - G) - H$$

Input	Stack	Output
A	-	A
-	-	
B	-	AB
-	-	AB-
C	-	AB-C
*	-*	AB-C
(-*(AB-C
D	-*(AB-CD
+	-*(+	AB-CD
E	-*(+	AB-CDE
/	-*(+)	AB-CDE
F	-*(+)	AB-CDEF
-	-*(-	AB-CDEF/+
G	-*(-	AB-CDEF/+G
)	-*	AB-CDEF/+G-
-	-	AB-CDEF/+G-*-
H	-	AB-CDEF/+G-*H
		AB-CDEF/+G-*H-

$$A=8 \quad B=2 \quad C=3 \quad D=6 \quad E=9 \quad F=10 \quad G=11 \quad H=13$$

$$\begin{array}{|c|} \hline 2 \\ \hline 8 \\ \hline \end{array} \quad 8-2=6 \quad \begin{array}{|c|} \hline 10 \\ \hline 9 \\ \hline 6 \\ \hline 3 \\ \hline 6 \\ \hline \end{array} \quad 9/10=0.9 \quad \begin{array}{|c|} \hline 0.9 \\ \hline 6 \\ \hline 3 \\ \hline 6 \\ \hline \end{array} \quad 6+0.9=6.9$$

$$\begin{array}{|c|} \hline 11 \\ \hline 6.9 \\ \hline 3 \\ \hline 6 \\ \hline \end{array} \quad 6.9-11=-4.1 \quad \begin{array}{|c|} \hline -4.1 \\ \hline 3 \\ \hline 6 \\ \hline \end{array} \quad -4.1 \times 3 = -12.3 \quad \begin{array}{|c|} \hline -12.3 \\ \hline 6 \\ \hline \end{array} \quad 6-(-12.3)=18.3 \quad \begin{array}{|c|} \hline 13 \\ \hline 18.3 \\ \hline \end{array} \quad 18.3-13=5.3$$