

1.
  - a. prefix: +-DBC postfix: DB-C+
  - b. prefix: +\*AB\*CD postfix: AB\*CD\*+
  - c. prefix: +-\*+ABC\*DFC postfix: AB+C\*DF\*-C+
  - d. prefix: \*--A\*2+BC\*DEF postfix: A2BC+\*-DE\*-F\*

2.
  - a.  $2*3-4+5=7$
  - b.  $2*(3+4)-5=9$

3.
  - a.

Original	stack	Output
$(A+B)*C-D*F+C$		
$A+B)*C-D*F+C$	(	
$+B)*C-D*F+C$	(	A
$B*C-D*F+C$	+ (	A
$*C-D*F+C$	+ (	AB
$C-D*F+C$	*	AB+
$-D*F+C$	*	AB+C
$D*F+C$	-	AB+C*
$*F+C$	-	AB+C*D
$F+C$	*-	AB+C*D
$+C$	*-	AB+C*DF
$C$	+	AB+C*DF*-
	+	AB+C*DF*-C
		AB+C*DF*-C+

b.

Original	stack	Output
$(A - 2 * (B + C) - D * E) * F$		
$A - 2 * (B + C) - D * E) * F$	(	
$- 2 * (B + C) - D * E) * F$	(	A
$2 * (B + C) - D * E) * F$	-(	A
$* (B + C) - D * E) * F$	-C	A 1
$(B + C) - D * E) * F$	*-C	A 2
$B + C) - D * E) * F$	(*-C	A 2
$+ C) - D * E) * F$	(*-C	A 2 B
$) - D * E) * F$	+C*-C	A 2 B
$) - D * E) * F$	+C*-C	A 2 B C
$- D * E) * F$	(	A 2 B C +*-
$D * E) * F$	-(	A 2 B C +*-
$* E) * F$	-(	A 2 B C +*-D
$E) * F$	*-C	A 2 B C +*-D
$) * F$	*-C	A 2 B C +*-DE
$* F$		A 2 B C +*-DE*-
$F$	*	A 2 B C +*-DE*-
	*	A 2 B C +*-DE*-F
		A 2 B C +*-DE*-F*