

$$((A * B + C)^E - X/Y)^E$$

Symbol

Post-fix

Opt-stack

(

(

A

*

B

+

C

)

\$

E

-

X

/

Y

)

\$

E

A

A

AB

AB*

AB*C

AB*C+

AB*C+\$

AB*C+E

AB*C+E\$

AB*C+E\$X

AB*C+E\$X

AB*C+E\$XY

AB*C+E\$XY/-

AB*C+E\$XY/-

AB*C+E\$XY/-E\$

(

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Let consider

$$A=1, B=3, C=5, E=2, X=8, Y=2$$

1			1
3			1,3
*	1	3	3
5			3,5
+	3	5	8
2			8,2
\$	8	2	64
8			64,8
2			64,8,2
/	8	2	64,4
-	64	4	60
2			60,2
\$	60	2	3600

Infix checking

$$((A * B + C)^E - X / Y)^E$$

$$((1 * 3 + 5)^2 - 8 / 2)^2$$

$$((8)^2 - 8/2)^2$$

$$(64 - 4)^2$$

$$(60)^2 = 3600$$

Verify

Assignment 01

Q 2

$$((A/(b-c+d))*(e-a)*C)$$

Symbol

Partial

OP+ Stack

((
(((
(((
A	A		((A
/	A		((/
(A		(((/
b	Ab		(((/b
-	Ab		(((/b-
c	Abc		(((/b-c
+	Abc-		(((/b-c+
d	Abc-d		(((/b-c+d
)	Abc-d+/'		(((/b-c+d)
)	Abc-d+/'		((
*	Abc-d+/'		((*
(Abc-d+/'		((*(
e	Abc-d+/'e		((*(e
-	Abc-d+/'e		((*(e-
a	Abc-d+/'ea		((*(e-a
)	Abc-d+/'ea-		((*(e-a)
*	Abc-d+/'ea-		((*(e-a*
C	Abc-d+/'ea-*C		((*(e-a*C
)	Abc-d+/'ea-*C*		((
)			(

4

postfix expression \rightarrow $abc-d+|ea-*c+$
 let $A=16, B=4, C=2, d=6, e=8, a?$

16			16
4			16, 4
2			16, 4, 2
-	4	2	16, 2
6			16, 2, 6
+	2	6	16, 8
1	16	8	2
8			2, 8
3			2, 8, 3
-	8	3	2, 5
*	2	5	10
2			10, 2
*	16	2	20

Infix Solution

$$(((16 / (4 - 2 \cdot 6)) \times (8 - 3) \times 2)$$

$$(((16 / 8) \times (5 \times 2)$$

$$(2) \times (10)$$

Solution is
20
Variable