

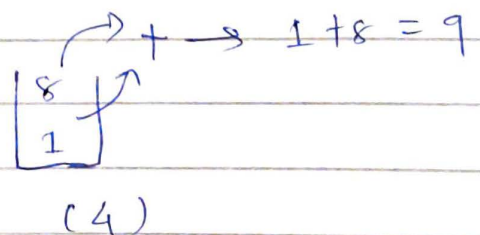
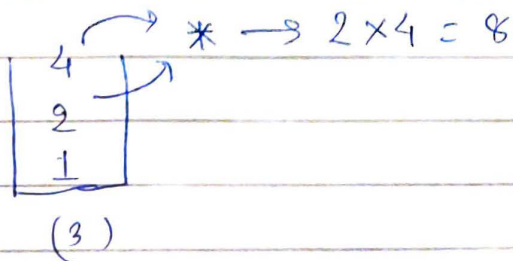
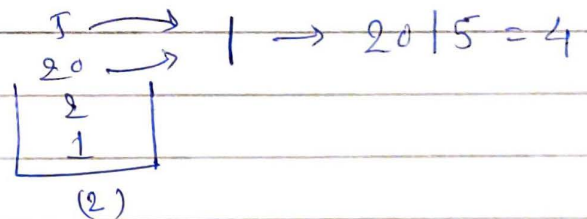
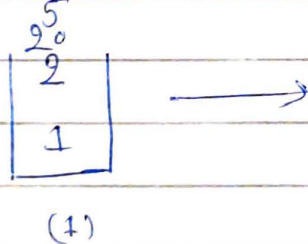
(1) $(1 + 2 * (20 / 5))$

(b) Infix to Postfix

current	stack	expression
(	empty	-
1	(	1
+	+(	1
2	+(	1 2
*	+(*	1 2
(	+(*(	1 2
20	+(*(	1 2 20
/	+(*/	1 2 20
5	+(*/	1 2 20 5
)	+(*/	1 2 20 5 /
)	empty	1 2 20 5 / * +

Postfix

(c) $1 \ 2 \ 20 \ 5 \ / \ * \ +$



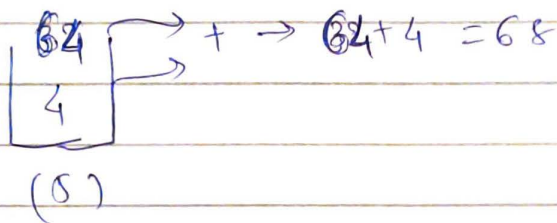
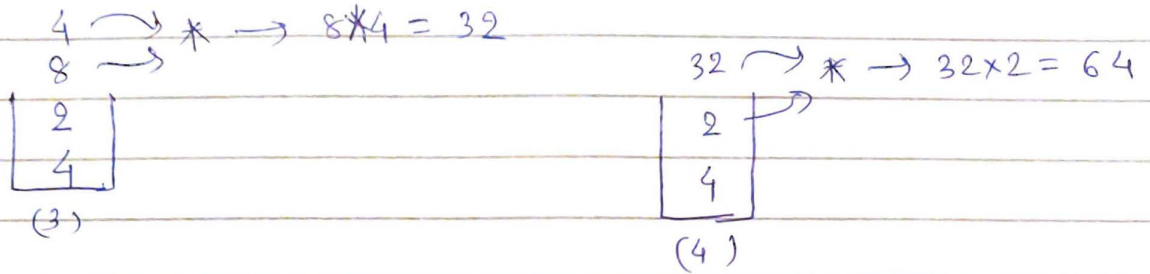
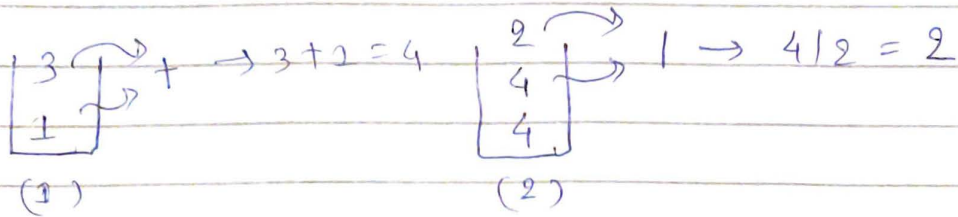
Ans: 9

$$(2) (1 + 3 + ((4 / 2) * (8 * 4)))$$

(b) Infix to postfix

current	stack	Expression
(	empty	—
1	(	1
+	+(	1
3	+(	1 3
+	+(	1 3 +
(	+(	1 3 +
(	((	1 3 +
4	((	1 3 + 4
/	((	1 3 + 4
2	((	1 3 + 4 2
)	(+)	1 3 + 4 2 /
*	((	1 3 + 4 2 /
(	((	1 3 + 4 2 /
8	((	1 3 + 4 2 / 8
*	((	1 3 + 4 2 / 8
4	((	1 3 + 4 2 / 8 4
)	((	1 3 + 4 2 / 8 4 *
)	(+)	1 3 + 4 2 / 8 4 **
)	empty	<u>1 3 + 4 2 / 8 4 * + +</u>
		postfix

(c) postfix evaluation.



Ans: 68

(3) $(4+8) * (6-5) / ((3-2) * (2+2))$

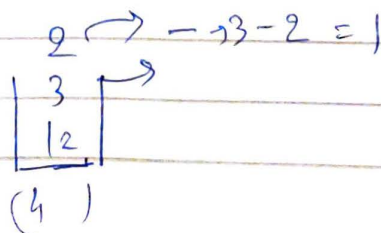
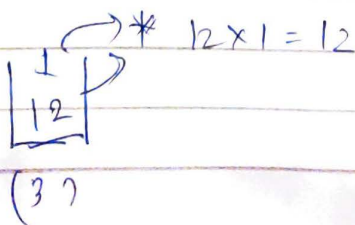
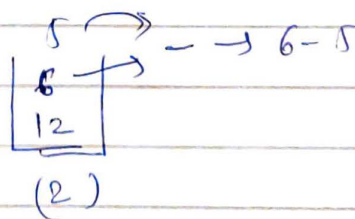
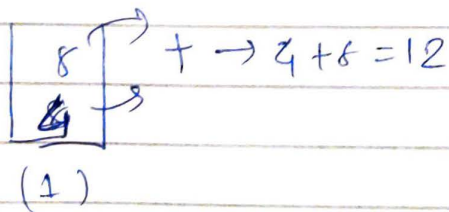
(b) Infix to postfix

Current	Stack	Expression
(	empty	-
4	(	4
+	+(	4
8	+(	4 8
)	empty	4 8 +
*	*	4 8 +
(	(*	4 8 +

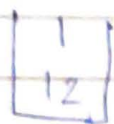
6	C*	48 + 6
-	-C*	48 + 6
5	-C*	48 + 6 5
)	*	48 + 6 5 -
/	/	48 + 6 5 - *
(	(/	48 + 6 5 - *
(	((/	48 + 6 5 - *
3	((/	48 + 6 5 - * 3
-	-((/	48 + 6 5 - * 3
2	-((/	48 + 6 5 - * 3 2
)	(/	48 + 6 5 - * 3 2 -
+	*(/	48 + 6 5 - * 3 2 -
(	(*(/	48 + 6 5 - * 3 2 -
2	(*(/	48 + 6 5 - * 3 2 - 2
+	+(*/	48 + 6 5 - * 3 2 - 2
2	+(*/	48 + 6 5 - * 3 2 - 2 2
)	*/	48 + 6 5 - * 3 2 - 2 2 +
)	/	<u>48 + 6 5 - * 3 2 - 2 2 + */</u>

postfix

(c) postfix evaluation.

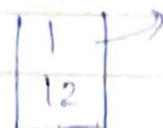


$$2 \rightarrow 2 \rightarrow + \rightarrow 2+2=4$$



(5)

$$4 \rightarrow * \rightarrow 4 \times 1 = 4$$



(6)

$$4 \rightarrow / \rightarrow 12/4 = 3$$

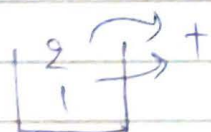
Ans 3

(4) (1 + 2 - 3)

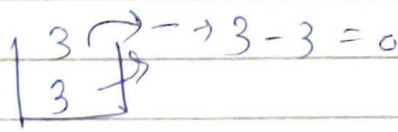
(b) Infix to postfix

current	Stack	Expression
(	empty	-
1	(	1
+	+(	1
2	+(	1 2
-	- (	1 2 +
3	- (	1 2 + 3
)	empty	1 2 + 3 -
		<u>postfix</u>

(c) Postfix Evaluation



(1)



(2)

Ans = 0