

1. Which of the following are valid prefix or postfix expressions?

- A/ $A B C + *$
- B/ $* + - A * B C D / E F$
- C/ $* A + B - C D * / E F$
- D/ $A + B C -$
- E/ $A + B * C$

2. Convert the following into prefix:

$$(X + Y) / P Q$$

3. If $a = 1$, $b = 3$, $c = 2$, and $d = 4$, evaluate the following prefix expression:

$$- / + * 2 a c d / + ^ b 2 a + b c$$

4. Convert the following expression into postfix:

$$3A / (B + C)A - B$$

5. Which of the following are valid postfix expressions?

- A/ $A B + C *$
- B/ $+ A * B C$
- C/ $A + B * C$
- D/ $A B + C D * E / F - +$
- E/ $A B C D E F + * + + /$

6. Convert the following expression into postfix:

$$A ^ 2 * B - C / D * E$$

7. Convert the following expression into prefix:

$$A (B + D) / (C - E)$$

8. Evaluate the following postfix expression when $A = 1$, $B = 2$, and $C = 3$:

$$A B C * + A C + - C +$$