

A. USING THE GRAMMAR BELOW, **TRACE** THE LEFTMOST AND RIGHTMOST DERIVATIONS, AND **DRAW** THE PARSE TREE OF THE FF:

EXAMPLE 3.4 An Unambiguous Grammar for Expressions

```

<assign> → <id> = <expr>
<id> → A | B | C
<expr> → <expr> + <term>
        | <term>
<term> → <term> * <factor>
        | <factor>
<factor> → ( <expr> )
          | <id>

```

1. $A = (A) * ((B+C))$
2. $B = C * (A + B)$
3. $A = A * (B) + ((C))$

B. **MODIFY** THE GRAMMAR BELOW TO INCLUDE THE POWER OPERATOR (**), FOLLOWING THE CORRECT PRECEDENCE AND ASSOCIATIVITY

EXAMPLE 3.4 An Unambiguous Grammar for Expressions

```

<assign> → <id> = <expr>
<id> → A | B | C
<expr> → <expr> + <term>
        | <term>
<term> → <term> * <factor>
        | <factor>
<factor> → ( <expr> )
          | <id>

```