1. (40 points) Name:

CS 315 - Programming Languages
Fall 2019-2020
Section 2
Quiz 1

Consider the following grammar:

<assign> → <var> = <exp>
<var> → 1 | 2 | 3
<exp> → <var> - <exp>
        | ( <exp>)
        | <var>

2. (30 points) Give a leftmost derivation for the string: 1 = ( 1 - 3 )

<assign> => <var> = <exp>
   => 1 = <exp>
   => 1 = ( <exp>)
   => 1 = ( <var> - <exp>)
   => 1 = ( 1 - <exp>)
   => 1 = ( 1 - <var>)
   => 1 = ( 1 - 3 )

3. (30 points) Draw the corresponding parse tree.

Answer: