Name: \_\_\_\_Demetrius Johnson\_\_\_\_\_2-11-2021\_\_\_\_\_\_\_\_

*No calculators are allowed.* Show your work. The points for each problem are indicated. Problems with incomplete work may receive partial, or no credit.

***COs: [No direct COs]***

**Points: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ / 25**

1. [10 pts] Convert the following transition graph into a finite automaton by filling in the (final) table and **identifying** the start and accept states. (You do not have to draw the transition diagram for the FA – filling in the final table is enough – **note**: this isn’t the intermediary table)



|  |  |  |
| --- | --- | --- |
| **FA State** | **a** | **b** |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

***Note: there may be more rows than you need in the table***

1. [10 pts] Convert the following transition graph into the equivalent regular expression
2. [5 pts] Name the accept states in the machine L2’ L1(read as: **L2 prime** union **L1**)

L2:

L1: