Selected Answers to Graded Problems in HW #1

Remember to explain all answers in your solutions. You will not receive credit for merely repeating an answer given here. If an answer is not given below, it is either because the solution is trivial or because disclosure of the answer would reveal too much of the solution to the problem.

It is possible that one or more of the answers given below is incorrect. There is a trade-off between speed and accuracy. The faster selected answers are posted to the web site, the more likely that a mistake could have been made in the rush to prepare them. You should develop the ability to evaluate the accuracy of any information you rely on. If you suspect that an answer below is incorrect, please let me know as soon as possible.

1.   a. $v_o = 0.56$ V; $v = 11$ mV
     b. $v_o = 0.96$ V; $v = 960$ µV
     c. $v_o = 1.0$ V; [v not given]

2. $v_o = -\left(\dfrac{A_o}{A_o + 1 + R_f/R_N}\right) R_f i_{in} = -\dfrac{1}{1 + \dfrac{1}{A_o}\left(1 + \dfrac{R_f}{R_N}\right)} R_f i_{in}$ (Any equivalent form is fine.)

3. $\dfrac{v_o}{v_{in}} = \dfrac{A_o}{A_o + 1}$

4. $v_{oOS} = \pm 0.61$ V