

**Important Remarks**

- Homework is due on Oct. 14th, 2014 at the beginning of class
- **For all problems, keeping your work in fractions will produce easier, more accurate results.**
- Start early and get help if you need it
- Start a new page per problem
- Show all the work
- Specify all the units
- Circle your answers
- Staple pages

1. Given the circuit shown in Figure 1. Compute  $V_{out}$ .

**Even if you know the answer you MUST derive it and show all your work.**

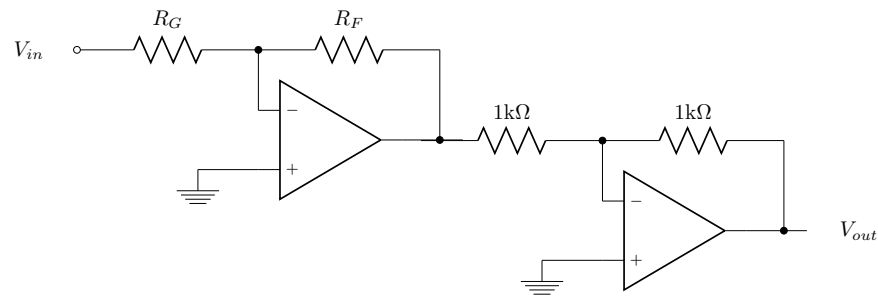


Figure 1:

2. For the op-amp circuit below assume it is an ideal op-amp with a supply voltage of  $\pm 15V$ :
- Determine the gain of the circuit.
  - Determine the maximum value for  $V_S$  such that the op-amp does not saturate.

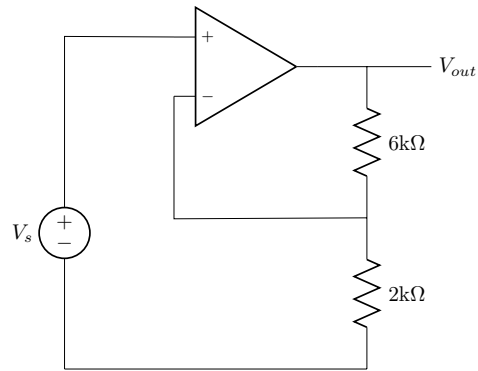


Figure 2:

3. For the op-amp circuit below, find  $V_{out}$ . Assume it is an ideal op-amp:

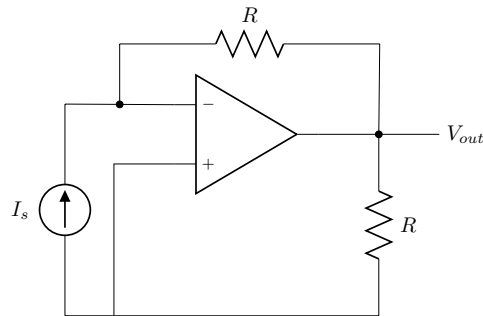


Figure 3: