EE 206: Homework #7

Op Amp Amplifiers. Due Wed, Feb 20th

1) Design an op-amp circuit to implement

$$Y = 2X$$

Simulate this circuit in PartSim with

- x(t) = 1Vp, 1kHz sine wave

Is Y double X?

2) Design an op-amp circuit to implement

$$Y = -2X$$

Simulate this circuit in PartSim with

- x(t) = 1Vp, 1kHz sine wave

Is Y double X and 180 degrees out of phase?

3) Design an op-amp circuit to implement

$$Y = 2X - 10$$

4) Design an op-amp circuit which outputs

- -10V when R = 1000 Ohms
- +10V when R = 2000 Ohms

5) Simulate the circuit for problem #4. Plot the output voltage for 1000 < R < 2000 Ohms

	Vout	
R	Calculated prob 4	Simulated prob 5
1000		
1200		
1400		
1600		
1800		
2000		