

## School of Electrical and Information Engineering University of the Witwatersrand, Johannesburg ELEN2008 Electric Circuits

## Laboratory 3 – 2016

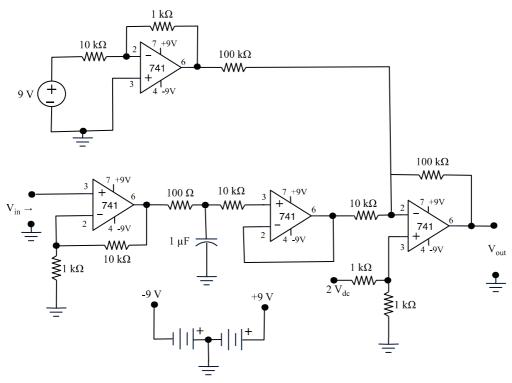


Figure 1: An operational amplifier circuit

- 1 Analyse the circuit in Figure 1 and then:
- 1.1 Determine  $V_{out}$  with a -0.1  $V_{dc}$  at the input  $V_{in}$ .
- 1.2 Sketch the output waveform with a 0.1  $V_{p-p}$ , 1kHz sine wave at the input  $V_{in}$ . You must include any dc offsets in your sketch.
- 2 Build the circuit in Figure 1 and, using a signal generator and oscilloscope, measure and demonstrate the outputs with the inputs as specified in section 1.