# EN-3212 Electronics Worksheet 10

# Operational Amplifiers: Signal Conditioning

Draw each operational amplifier circuit. Include resistor values

Components:

Resistors: standard

Op amps: unlimited

Equation:

$$V_{out} = -0.2V_{in}$$

Components:

Resistors: standard

Op amps: unlimited

Equation:

$$V_{out} = 6.1V_{in}$$

Components:

Resistors: standard

Capacitors: any value

Op amps: unlimited

Equation:

$$V_{out} = -\frac{1}{0.0013}\int V_{in}dt$$

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# Operational Amplifiers: Signal Conditioning

Components:

Resistors: standard

Capacitors: any value

Op amps: unlimited

Equation:

$$V_{out} = -0.00091 \frac{d}{dt} V_{in}$$

!!Components:

Resistors: standard

Op amps: unlimited

Equation:

$$V_{out} = \frac{2}{3} V_{in}$$

!!Components:

Resistors: standard

Op amps: unlimited

Voltage Source: 10volts

Equation:

$$V_{out} = 2V_1 + -4volts$$

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# Operational Amplifiers: Signal Conditioning

!!Components:

Resistors: standard

Op amps: unlimited

Equation:

$$V_{out} = 3.3V_1 - \frac{4}{1.5} V_2$$