EN-3212 Electronics

Operational Amplifiers: Equation Building 2

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:

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

EN-3212 Electronics

Operational Amplifiers: Equation Building 2

Components:

Resistors: standard

Capacitors: any value

Op amps: unlimited

Equation:

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

!!Components:

Resistors: standard

Op amps: unlimited

Equation:

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

!!Components:

Resistors: standard

Op amps: unlimited

Voltage Source: 10volts

Equation:

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

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Operational Amplifiers: Equation Building 2

!!Components:

Resistors: standard

Op amps: unlimited

Equation:

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

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Operational Amplifiers: Equation Building 2

Standard Resistor Values (±5%)						
1.0	10	100	1.0K	10K	100K	1.0M
1.1	11	110	1.1K	11K	110K	1.1M
1.2	12	120	1.2K	12K	120K	1.2M
1.3	13	130	1.3K	13K	130K	1.3M
1.5	15	150	1.5K	15K	150K	1.5M
1.6	16	160	1.6K	16K	160K	1.6M
1.8	18	180	1.8K	18K	180K	1.8M
2.0	20	200	2.0K	20K	200K	2.0M
2.2	22	220	2.2K	22K	220K	2.2M
2.4	24	240	2.4K	24K	240K	2.4M
2.7	27	270	2.7K	27K	270K	2.7M
3.0	30	300	3.0K	30K	300K	3.0M
3.3	33	330	3.3K	33K	330K	3.3M
3.6	36	360	3.6K	36K	360K	3.6M
3.9	39	390	3.9K	39K	390K	3.9M
4.3	43	430	4.3K	43K	430K	4.3M
4.7	47	470	4.7K	47K	470K	4.7M
5.1	51	510	5.1K	51K	510K	5.1M
5.6	56	560	5.6K	56K	560K	5.6M
6.2	62	620	6.2K	62K	620K	6.2M
6.8	68	680	6.8K	68K	680K	6.8M
7.5	75	750	7.5K	75K	750K	7.5M
8.2	82	820	8.2K	82K	820K	8.2M
9.1	91	910	9.1K	91K	910K	9.1M