TABLE 6.1 Summary of Basic Op Amp Circuits

Name	Circuit Schematic	Input-Output Relation
Inverting Amplifier	$v_{\text{in}} \stackrel{+}{\overset{+}{\overset{-}{\overset{-}{\overset{-}{\overset{-}{\overset{-}{\overset{-}{\overset$	$v_{ m out} = -rac{R_f}{R_1}v_{ m in}$
Noninverting Amplifier	R_1 V_{in} V_{in} V_{in}	$v_{\text{out}} = \left(1 + \frac{R_f}{R_1}\right) v_{\text{in}}$
Voltage Follower (also known as a Unity Gain Amplifier)	v _{in} + v _{out}	$v_{ m out}=v_{ m in}$
Summing Amplifier	$v_1 \overset{i_1}{{\sim}} v_2 \overset{i_2}{{\sim}} v_3 \overset{i_3}{{\sim}} v_3 \overset{i_3}{\overset{i_3}{\sim}} v_3 \overset{i_3}{{\sim}} v_3 i_$	$v_{\text{out}} = -\frac{R_f}{R}(v_1 + v_2 + v_3)$
Difference Amplifier	$v_1 \stackrel{i_1}{\overset{\sim}{\overset{\sim}{\overset{\sim}{\overset{\sim}{\overset{\sim}{\overset{\sim}{\overset{\sim}{$	$v_{ m out} = v_2 - v_1$