

ANALOG CIRCUIT DESIGN

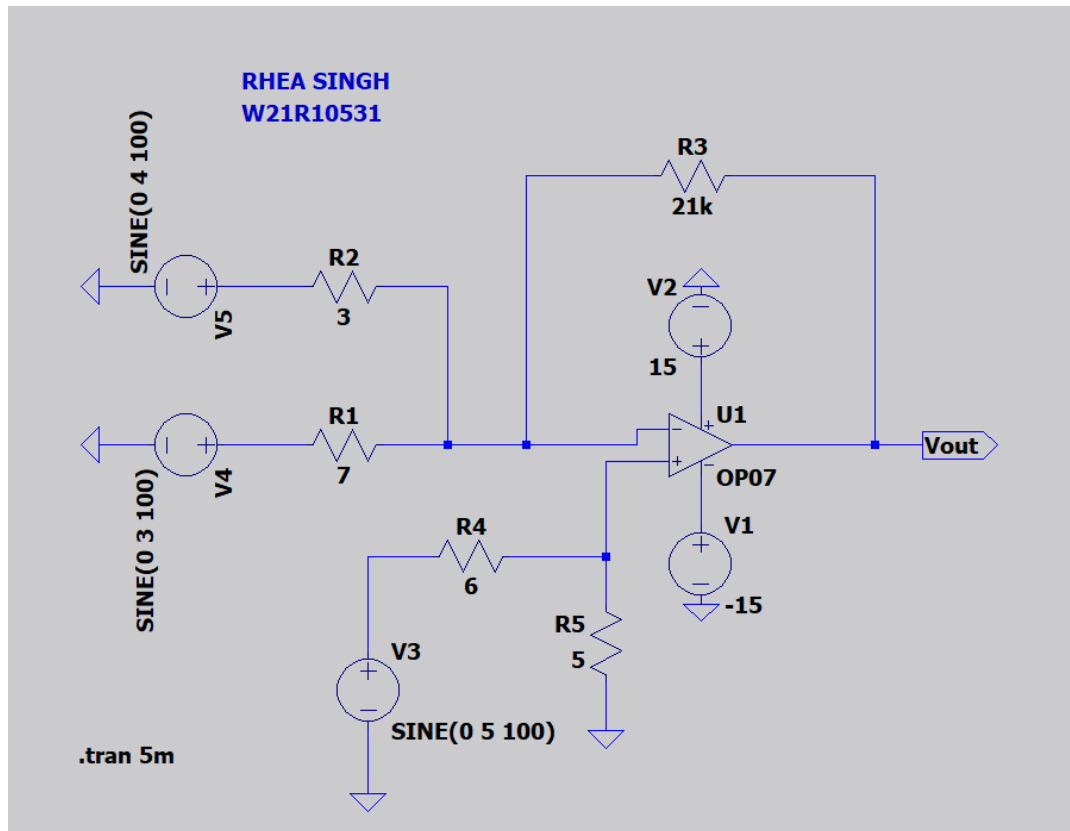
WISSENAIRE

Simulation Report *And Solutions*

Name	-	Rhea Singh
Wissenaire's ID	-	W21R10531
Department	-	Electrical Engineering
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Solution No. 2

- a) The screenshot of the LT-spice schematic diagram of the designed circuit :



- b) The gains of an inverting amplifier and non-inverting amplifier with source resistance R_1 and feedback resistance R_f are :

Inverting amplifier –

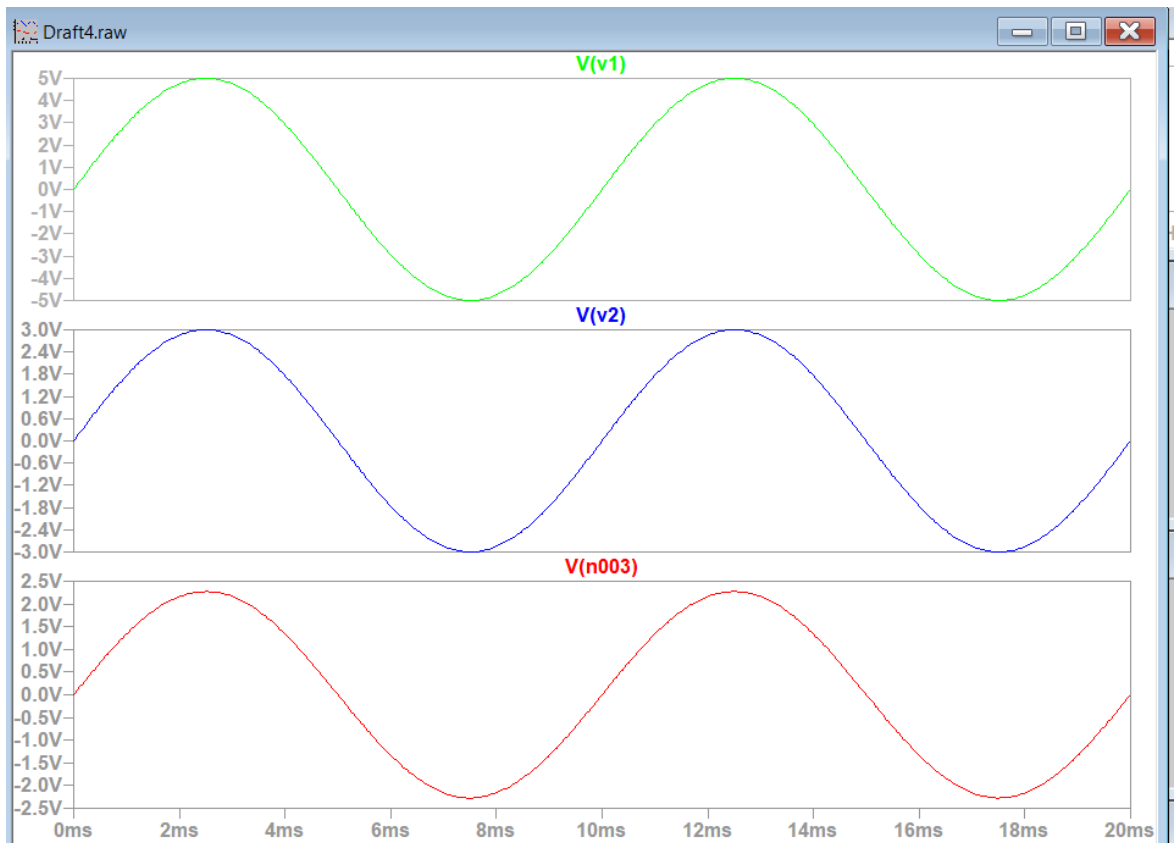
$$\text{Gain} = -(R_f/R_1)$$

Non-Inverting amplifier –

$$\text{Gain} = 1 + (R_f/R_1)$$

- c) The screenshot of plot containing V1, V2 and V3 by performing a transient simulation are as follows:

Plots:



- d) The circuit designed is a Weighted Summer amplifier.
 e) The screenshot of plot containing $(5V_1-3V_2-7V_3)$ and $V(out)$ in different pane by performing a transient simulation:

