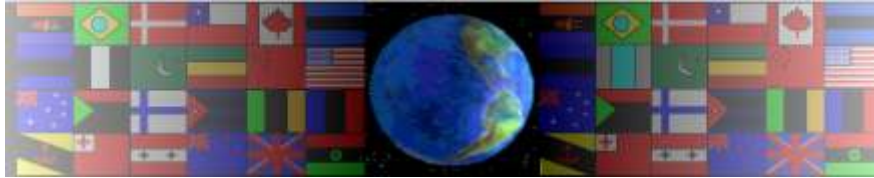# INVERTING AND NON-INVERTING OPERATIONAL AMPLIFIERS

V.Ryan © 2000 - 2009

On behalf of The World Association of Technology Teachers

W.A.T.T.

World Association of Technology Teachers

This exercise can be printed and used by teachers and students. It is recommended that you view the website (www.technologystudent.com) before attempting the design sheet .

INVERTING AND NON-INVERTING OPERATIONAL AMPLIFIERS

1. Complete the descriptions of the inverting and non-inverting operational amplifiers.

 A. An inverting amplifier - Leg two is the input and the output is always _____.

 B. A Non-inverting amplifier - Leg three is the input and the output is _____.

2. The incomplete diagram below shows an INVERTING amplifier. Complete the diagram by adding the following:

      V_{IN} (voltage in)   Inverting - leg two   V out   Non-inverting
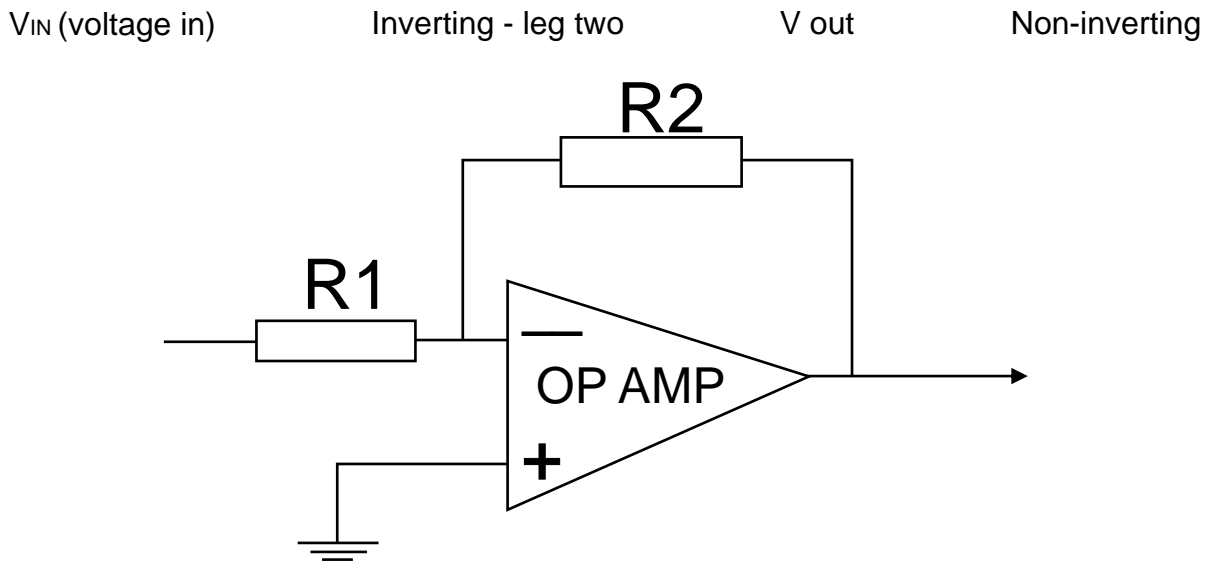
3. Which of the resistors controls the amplification?

_____

4. Calculate the GAIN for the following questions:

INVERTING AMPLIFIER	**NON-INVERTING AMPLIFIER**
GAIN (AV) = -R2 / R1	GAIN (AV) = 1+(R2 / R1)
Example : if R2 is 100 kilo-ohm and R1 is 10 kilo-ohm the gain would be:	Example : if R2 is 1000 kilo-ohm and R1 is 100 kilo-ohm the gain would be :