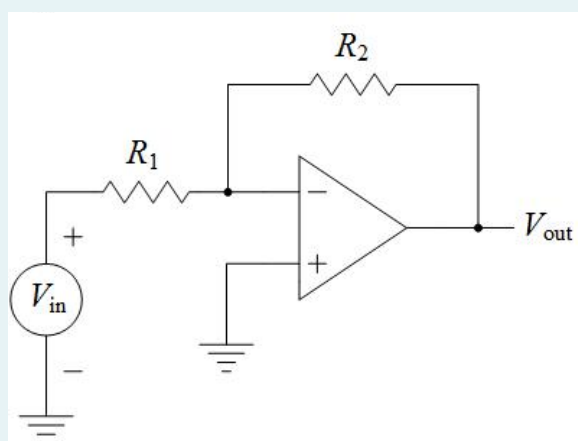


Started on	Friday, 22 July 2022, 3:35 PM
State	Finished
Completed on	Friday, 22 July 2022, 4:16 PM
Time taken	40 mins 44 secs
Grade	6.0 out of 10.0 (60%)

Question 1

Correct

Mark 0.0 out of 2.0



For the operational amplifier circuit shown, what is the output voltage in Volts if $V_{in} = 0.7V$? Assume that the opamp has an input offset voltage of $17.4mV$, and is ideal in all other respects. Use $R_1 = 9.0k\Omega$ and $R_2 = 68.9k\Omega$. Since offset voltages are small, be sure to give your answer to the nearest millivolt!

Answer: ✓

The correct answer is: -5.509

Correct

Marks for this submission: 2.0/2.0. Accounting for previous tries, this gives **0.0/2.0**.

Question **2**

Correct

Mark 2.0 out of 2.0

Difference amplifiers are used to amplify the difference between two signals, and reject their average value.

Select one:

- ☒ True ✓
- ☐ False

The correct answer is 'True'.

Correct

Marks for this submission: 2.0/2.0.

Question **3**

Correct

Mark 2.0 out of 2.0

Which of the following is true for a difference amplifier?

Select one:

- ☐ a. They are designed to amplify the average value of the voltage of the 2 input signals
- ☒ b. Increasing their voltage gain usually requires decreasing their input resistance ✓
- ☐ c. To achieve a low CMRR the resistors used must match each other well
- ☐ d. They are designed to reject the difference in voltage between the 2 input signals
- ☐ e. None of these

The correct answer is: Increasing their voltage gain usually requires decreasing their input resistance

Correct

Marks for this submission: 2.0/2.0.

Question **4**

Correct

Mark 0.0 out of 2.0

Ideal opamp integrators without an extra resistor in parallel with the capacitor have infinite gain at DC.

Select one:

- ☒ True ✓
- ☐ False

The correct answer is 'True'.

Correct

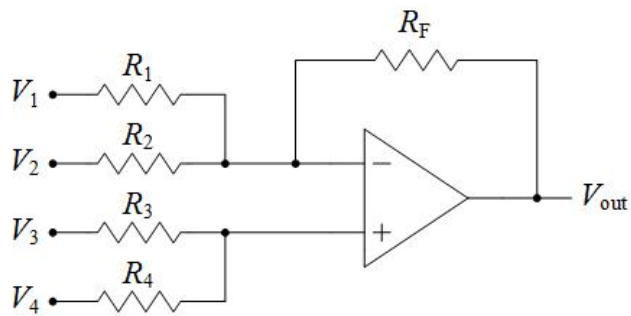
Marks for this submission: 2.0/2.0. Accounting for previous tries, this gives **0.0/2.0**.



Question 5

Correct

Mark 2.0 out of 2.0



What is the voltage gain in V/V from the V_2 input to the output for the operational amplifier circuit shown? Assume that the opamp is ideal, and use $R_1 = 4.2\text{k}\Omega$, $R_2 = 1.3\text{k}\Omega$, $R_3 = 6.0\text{k}\Omega$, $R_4 = 9.8\text{k}\Omega$ and $R_F = 26.1\text{k}\Omega$.

Answer: ✓

The correct answer is: -20.08

Correct

Marks for this submission: 2.0/2.0.

[◀ Practice Quiz 1b - Signals and Amplifiers](#)

[Practice Quiz 3 - Semiconductors ▶](#)

