

# Golden Rules

## Student Group

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## Golden Rules

Explain the Golden Rules of the operational amplifier.

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### Op-Amp zero adjustment without feedback

Build the following circuit in [figure 1](#) with the power supply and a multimeter.



Fig. 1: Zero adjustment

$$U_{DD} = U_{SS} \cdot \frac{R_1}{R_1 + R_2} + U_{out} \cdot \frac{R_2}{R_1 + R_2}$$

Adjust the output of the Op-Amp to zero. Describe your results and explain them.

U\_{DD} = U\_{SS} \cdot \frac{R\_1}{R\_1 + R\_2} + U\_{out} \cdot \frac{R\_2}{R\_1 + R\_2}

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How can the circuit be improved? Draw an improved version and explain it.

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