$$V_{ADC} = \frac{R_9}{R_9 + R_8} \times V_{OUTPUT}$$

$$V_{ADC} \times \left[\frac{1}{V_{OUTPUT}}\right] = \frac{R_9}{R_9 + R_8} \times \cancel{V_{OUTPUT}} \times \left[\frac{1}{\cancel{V_{OUTPUT}}}\right]$$

$$\frac{V_{ADC}}{V_{OUTPUT}} \times [R_9 + R_8] = \frac{R_9}{\cancel{R_9 + R_8}} \times [\cancel{R_9 + R_8}]$$

$$\frac{V_{ADC}}{\cancel{V_{OUTPUT}}} \times [R_9 + R_8] \times [\cancel{V_{OUTPUT}}] = R_9 \times [V_{OUTPUT}]$$

$$\cancel{V_{ADC}} \times [R_9 + R_8] \times \left[\frac{1}{\cancel{V_{ADC}}}\right] = V_{OUTPUT} R_9 \times \left[\frac{1}{V_{ADC}}\right]$$

$$\cancel{R_9} + R_8 - \cancel{R_9} = \frac{V_{OUTPUT} R_9}{V_{ADC}} - R_9$$

$$R_8 = \frac{V_{OUTPUT} R_9}{V_{ADC}} - R_9$$

$$R_{9(arb)} = 100k\Omega$$

$$R_8 = \left(\frac{20 \times 100 \times 10^3}{5}\right) - 100 \times 10^3$$

$$R_8 = 300k\Omega$$

$$R_{8(uti)} = 150 + 150k\Omega$$

$$V_{ADC} = \frac{100 \times 10^3}{100 \times 10^3 + 300 \times 10^3} \times 20$$

$$V_{ADC} = 5{,}00V$$

$$\left(\frac{V_{ADC}}{V_{OUTPUT}}\right)^{-1} = \left(\frac{R_9}{R_9 + R_8}\right)^{-1}$$

$$\frac{V_{OUTPUT}}{\cancel{V_{ADC}}} \times \cancel{V_{ADC}} = \frac{R_9 + R_8}{R_9} \times V_{ADC}$$

$$V_{OUTPUT} = \frac{R_9 + R_8}{R_9} \times V_{ADC}$$

$$V_{OUTPUT} = \frac{400 \times 10^3}{100 \times 10^3} \times 5$$

$$V_{OUTPUT} = 20{,}00V$$