

Ex. 1.3.9



So $R_1 = 2$

Now suppose we know R_n

R_{n+1} adds resistor of form



\Rightarrow

A simplified circuit diagram showing a single resistor with value $\frac{1}{2^{n-1}}$.

$$\frac{1}{2^n} + \frac{1}{2^n} = \frac{2}{2^n} = \frac{1}{2^{n-1}}$$

$$\text{So } R_{n+1} =$$

$$\frac{1}{R_n + 2^{n-1}}$$

=

$$\frac{1}{\left(\frac{2^n R_n + 2}{2 R_n} \right)}$$

=

$$\frac{2 R_n}{2^n R_n + 2},$$

=