R_1 R_2 R_3

a) 1Ω, 2Ω y 3Ω

EN SERIE $R = 1+2+3 = 6\,\Omega$

EN PARALELO:

$$\frac{1}{R} = \frac{1}{1} + \frac{1}{2} + \frac{1}{3}$$

$$\boxed{\frac{1}{R} = \frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3}}$$

$$\frac{1}{R} = 1 + 0.5 + 0.33$$

$$\frac{1}{R} = 1.83$$

$$\frac{1}{1.83} = R$$

$$\boxed{R = 0.55\,\Omega}$$

$$\frac{1}{R} = \frac{1}{1} + \frac{1}{2} + \frac{1}{3} = \frac{6}{6} + \frac{3}{6} + \frac{2}{6} = \frac{11}{6}$$

$$\frac{1}{1} = \frac{1 \cdot 6}{1 \cdot 6} = \frac{6}{6}$$

$$\frac{1}{2} = \frac{1 \cdot 3}{2 \cdot 3} = \frac{3}{6}$$

$$\frac{1}{3} = \frac{1 \cdot 2}{3 \cdot 2} = \frac{2}{6}$$

$$\frac{1}{R} = \frac{11}{6}$$

$$1 = \frac{11 \cdot R}{6}$$

$$\frac{1 \cdot 6}{11} = R = \boxed{0.55\ \Omega}$$

b) $\frac{1}{R} = \frac{1}{4} + \frac{1}{6} + \frac{1}{8}$

$\frac{1}{R} = 0.25 + 0.16\overline{6} + 0.125$

$\frac{1}{R} = 0.541\overline{6}$

$\frac{1}{0.541\overline{6}} = R$

$R \approx 1.85\ \Omega$

$$\frac{1}{R} = \frac{1}{R_1} + \frac{1}{R_2}$$

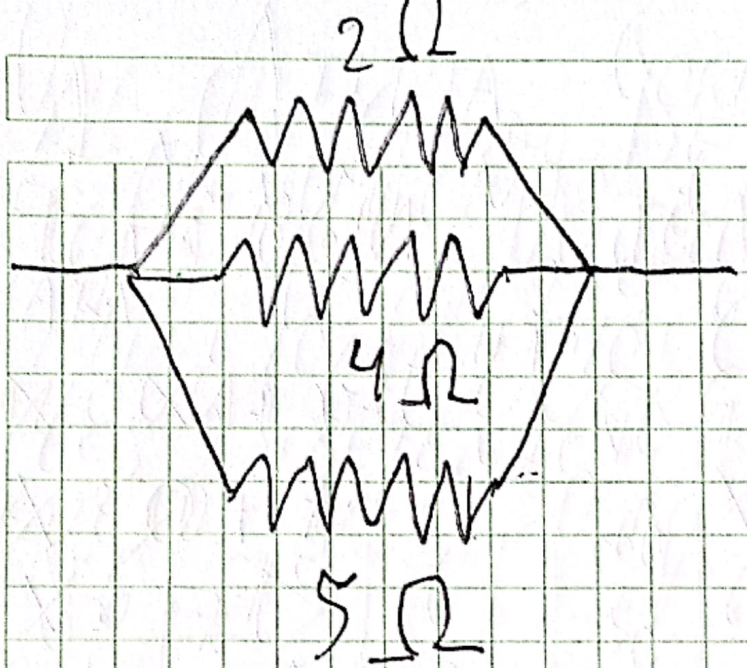
$$\frac{1}{R} = \frac{1}{5} + \frac{1}{10}$$

$$\frac{1}{R} = 0.2 + 0.1 = 0.3$$

$$\frac{1}{R} = 0.3$$

$$\frac{1}{0.3} = R$$

$$R = 3.3\ \Omega$$



$$\frac{1}{R} = \frac{1}{2} + \frac{1}{4} + \frac{1}{5}$$

$$\frac{1}{R} = 0.5 + 0.25 + 0.2 = 0.95$$

$$R = \frac{1}{0.95} = 1.05\ \Omega$$