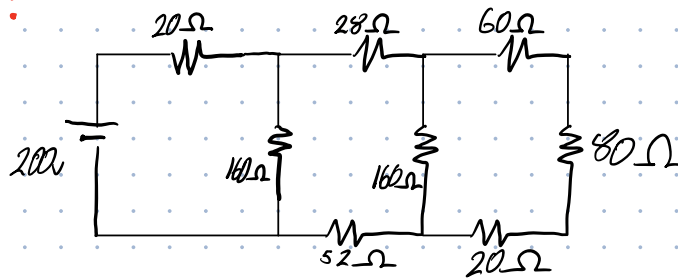
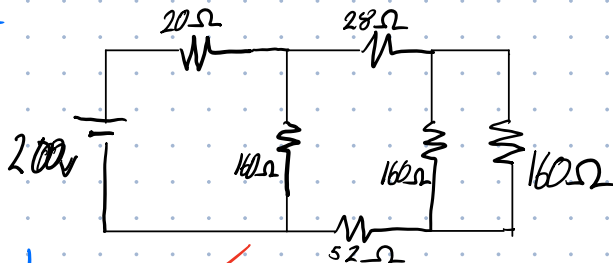


Problem 1:

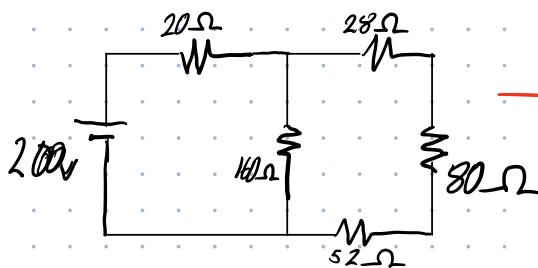
Alexander Antan



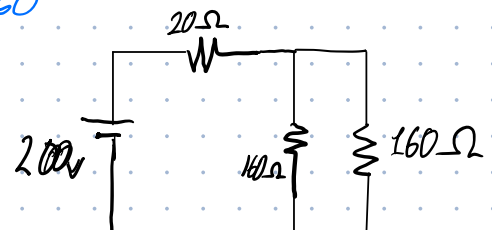
$$R_{Tot} = (60 + 80 + 20) \Omega = 160 \Omega$$



$$R_{Tot} = \frac{1}{\frac{1}{160} + \frac{1}{160}} = 1 \cdot \frac{160}{2} = 80 \Omega$$

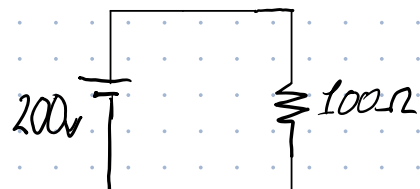
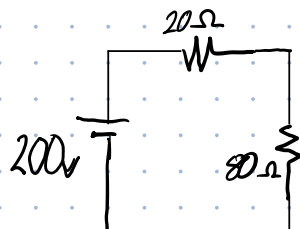


$$R_{Tot} = (28 + 80 + 52) \Omega = 160$$



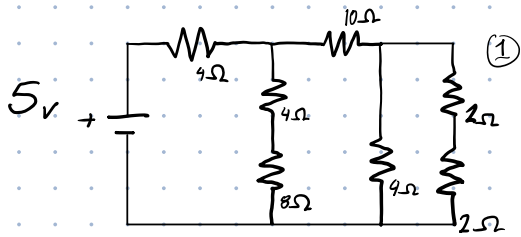
$$R_{Tot} = \frac{1}{\frac{1}{160} + \frac{1}{160}} = 80 \Omega$$

$$R_{Tot} = (20 + 80) \Omega = 100 \Omega$$

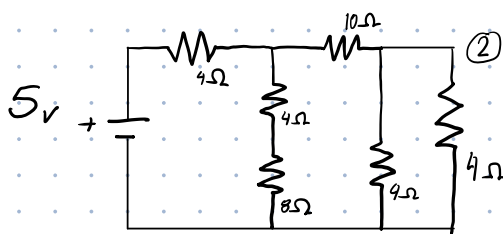


Problem 2:

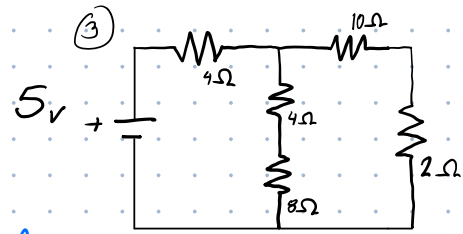
Alexander Antoun



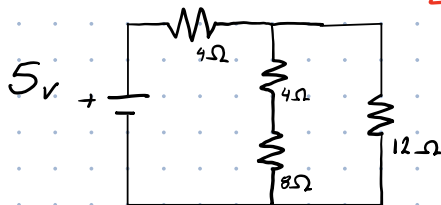
$$R_{Tot} = (2 + 2)\Omega = 4\Omega$$



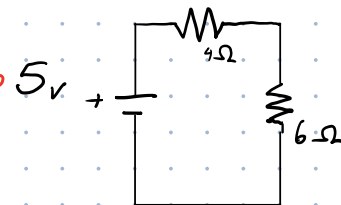
$$R_{Tot} = \frac{1}{\frac{1}{4} + \frac{1}{4}} = 2\Omega$$



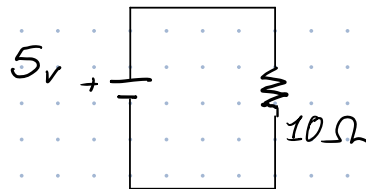
$$R_{Tot} = (10 + 2)\Omega = 12\Omega$$



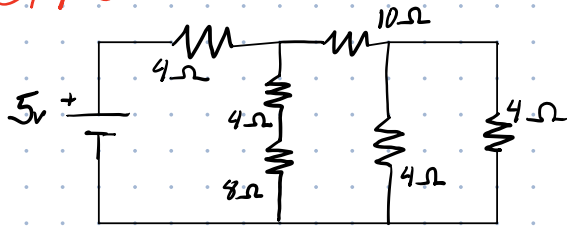
$$R_{Tot} = \frac{1}{\frac{1}{12} + \frac{1}{(4+8)}} = 6\Omega$$



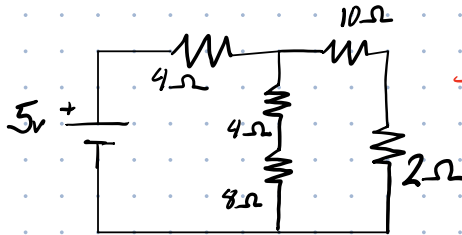
$$R_{Tot} = (4 + 6)\Omega = 10\Omega$$



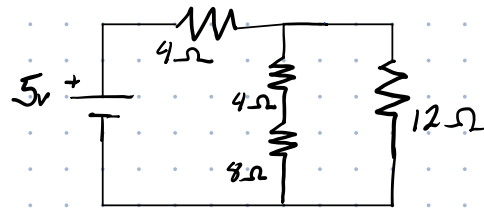
Problem 3



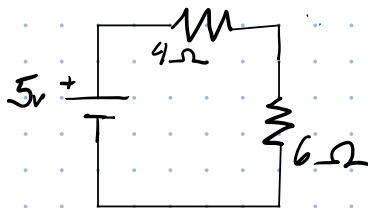
$$R_{\text{tot}} = \frac{1}{\frac{1}{4} + \frac{1}{4}} = 2$$



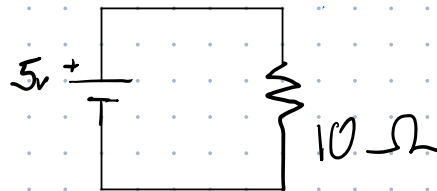
$$R_{\text{tot}} = (10 + 2) \Omega = 12 \Omega$$



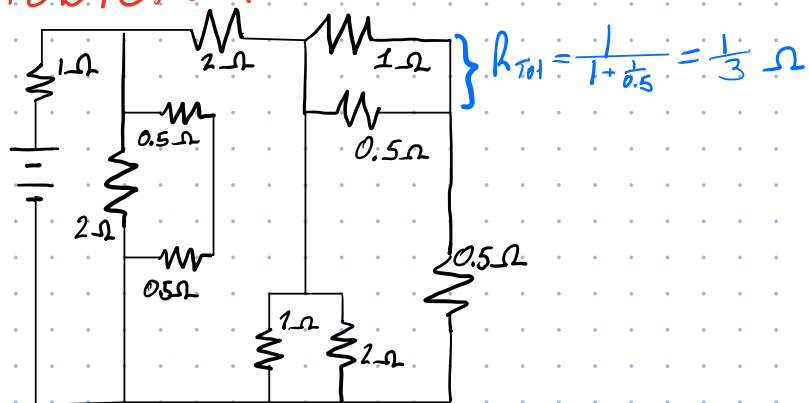
$$R_{\text{tot}} = \frac{1}{\frac{1}{12} + \frac{1}{4+8}} = 6 \Omega$$



$$R_{\text{tot}} = (4 + 6) \Omega = 10 \Omega$$

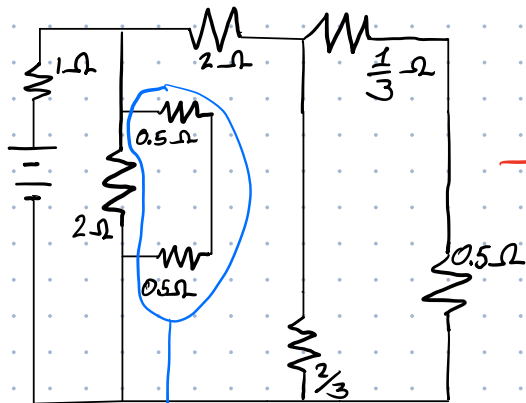


Problem 4

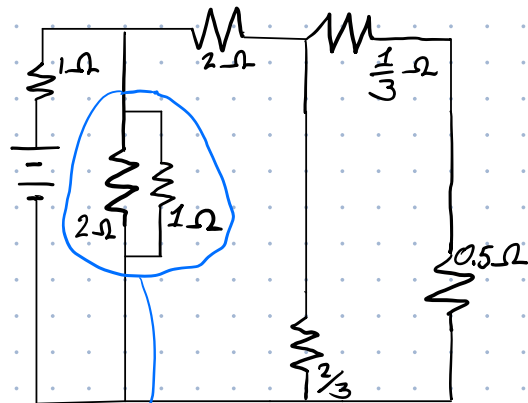


$$R_{Tot} = \frac{1}{\frac{1}{1} + \frac{1}{0.5}} = \frac{1}{3} \Omega$$

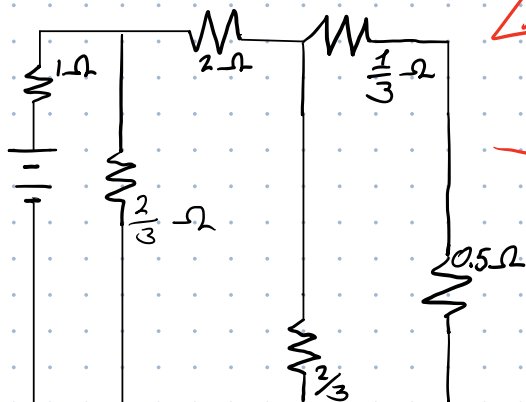
$$R_{Tot} = \frac{1}{\frac{1}{1} + \frac{1}{2}} = \frac{1}{\frac{3}{2}} = \frac{2}{3} \Omega$$



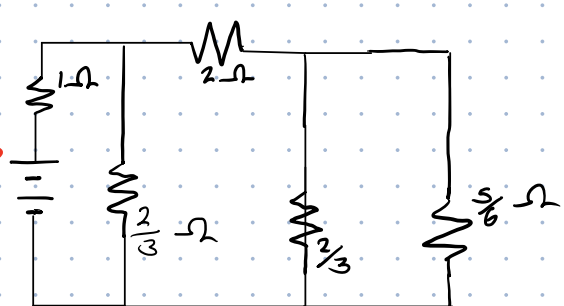
$$R_{Tot} = (0.5 + 0.5) \Omega = 1 \Omega$$



$$R_{Tot} = \frac{1}{\frac{1}{2} + 1} = \frac{2}{3} \Omega$$

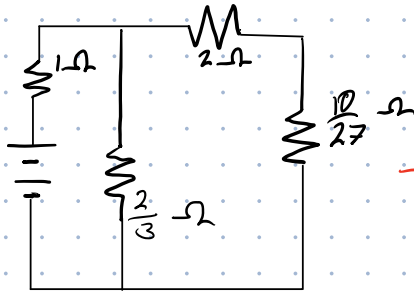


$$R_{Tot} = (0.5 + \frac{1}{3}) \Omega = \frac{5}{6} \Omega$$

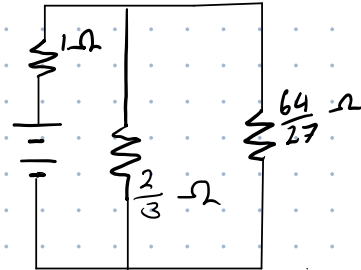


$$R_{Tot} = \frac{1}{\frac{1}{5/6} + \frac{1}{2/3}} = \frac{10}{27} \Omega$$

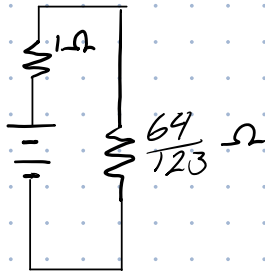
Problem 4 continued



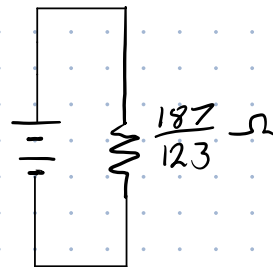
$$R_{\text{tot}} = \left(2 + \frac{10}{27}\right) \Omega = \frac{64}{27} \Omega$$



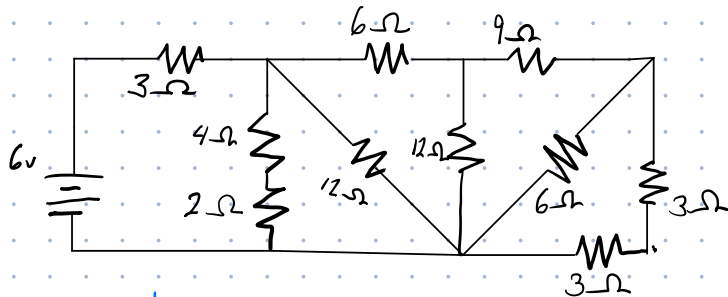
$$R_{\text{tot}} = \frac{1}{\frac{1}{2/3} + \frac{1}{64/27}} = \frac{64}{123} \Omega$$



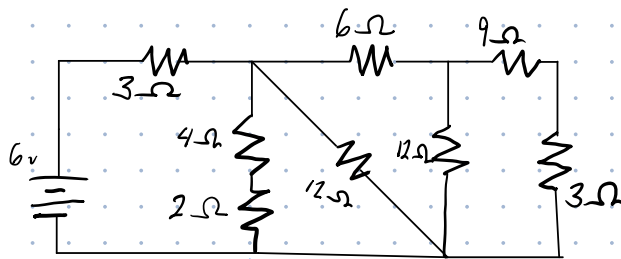
$$R_{\text{tot}} = 1 + \frac{64}{123} = \frac{187}{123} \Omega$$



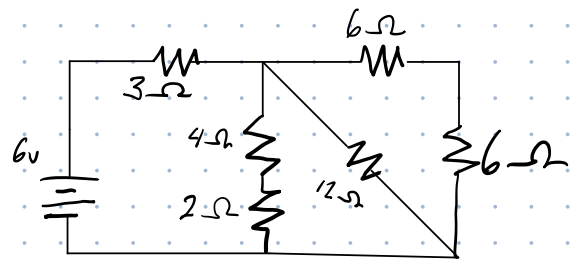
Problem 5



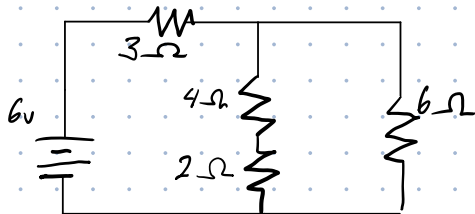
$$R_{Tot} = \frac{1}{\frac{1}{6} + \frac{1}{3+3}} = 3\Omega$$



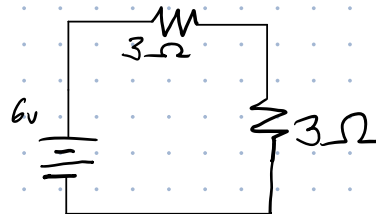
$$R_{Tot} = \frac{1}{\frac{1}{12} + \frac{1}{3+6}} = 6\Omega$$



$$R_{Tot} = \frac{1}{\frac{1}{12} + \frac{1}{6+6}} = 6\Omega$$



$$R_{Tot} = \frac{1}{\frac{1}{6} + \frac{1}{4+2}} = 3\Omega$$



$$R_{Tot} = (3+3)\Omega = 6\Omega$$

