Rangkaian Elektrik

Alvin Haryanto 1AEC4 224493071
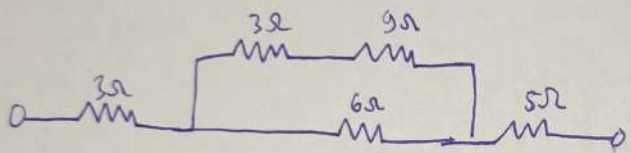
(1.)

$\downarrow$ Jadi
2R

$$\rightarrow R + \left(\dfrac{1}{\dfrac{1}{2R} + \dfrac{1}{R}} \right) = \underline{1,7R}$$

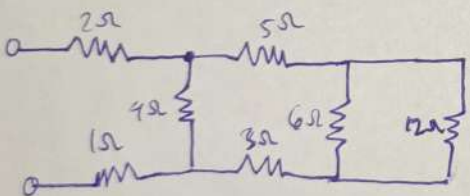(2.)

$\downarrow$ Jadi

3R
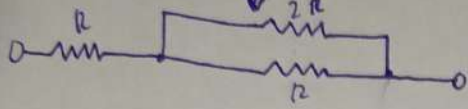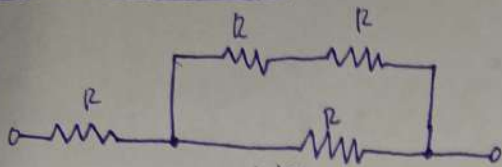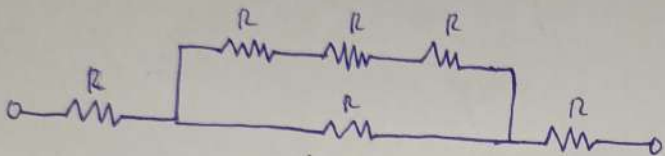
$$= R + \left(\dfrac{1}{\dfrac{1}{3R} + \dfrac{1}{R}} \right) + R = \underline{2,75R}$$
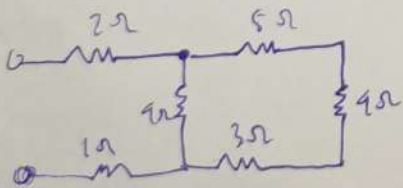
(3)

$$= 3\Omega + \left(\dfrac{1}{\dfrac{1}{12} + \dfrac{1}{6}} \right) + 5 = 12\Omega$$
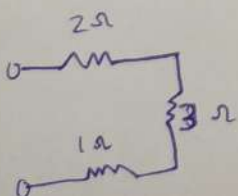
(4)

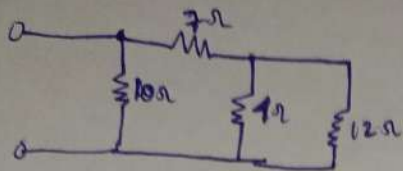$$= \dfrac{12 \times 6}{12 + 6} = \dfrac{72}{18} = 4\Omega$$

$$= 5 + 4 + 3 = 12\Omega$$

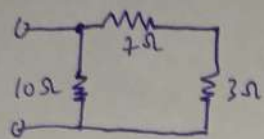$$= \dfrac{12 \times 4}{12 + 4} = 3\Omega$$

$$= 2 + 3 + 1 = 6\Omega$$

⑤

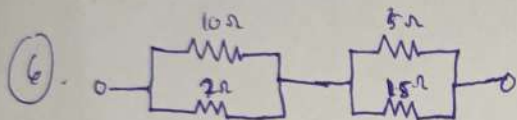$= \dfrac{12 \times 4}{12 + 4} = \dfrac{48}{16} = 3\,\Omega$

7Ω, 10Ω, 4Ω, 12Ω

$= 7 + 3 = 10$

$= \dfrac{1}{R} = \dfrac{1}{10} + \dfrac{1}{10}$

$= \dfrac{1}{R} = \dfrac{2}{20}$

$= 2R = 20$

$R = 10\,\Omega$

⑥

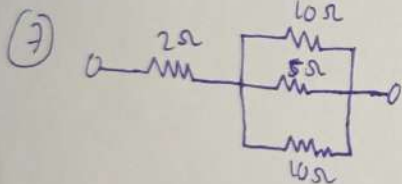10Ω, 5Ω, 2Ω, 15Ω

$= \dfrac{10 \times 2}{10 + 2} + \dfrac{5 \times 15}{5 + 15}$

$= 1{,}7 + 3{,}75$

$= 5{,}45$

⑦

2Ω, 10Ω, 5Ω, 10Ω

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

$\dfrac{1}{R} = \dfrac{1 + 2 + 1}{10}$

$4R = 10$

$R = 2{,}5$

$R \, total = 2 + 2{,}5 = 4{,}5\,\Omega$

⑧

2Ω, 5Ω, 8Ω, 12Ω, 3Ω, 6Ω
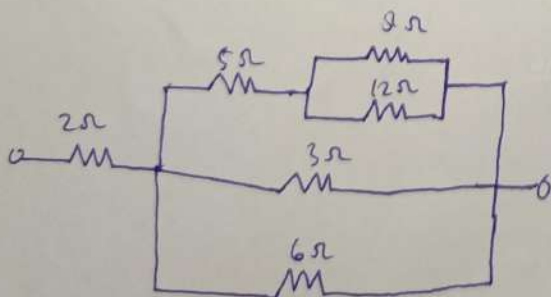
$5 + \dfrac{8 \times 12}{8 + 12} = 9{,}8\,\Omega$

$= \dfrac{1}{R} = \dfrac{1}{9{,}8} + \dfrac{1}{3} + \dfrac{1}{6}$

$\dfrac{1}{R} = \dfrac{10 + 58{,}8 + 29{,}4}{176{,}4}$

$176{,}4 = 106{,}2\, R$

$R = 1{,}7\,\Omega$

$R \, total = 2 + 1{,}7$

$= 3{,}7\,\Omega$