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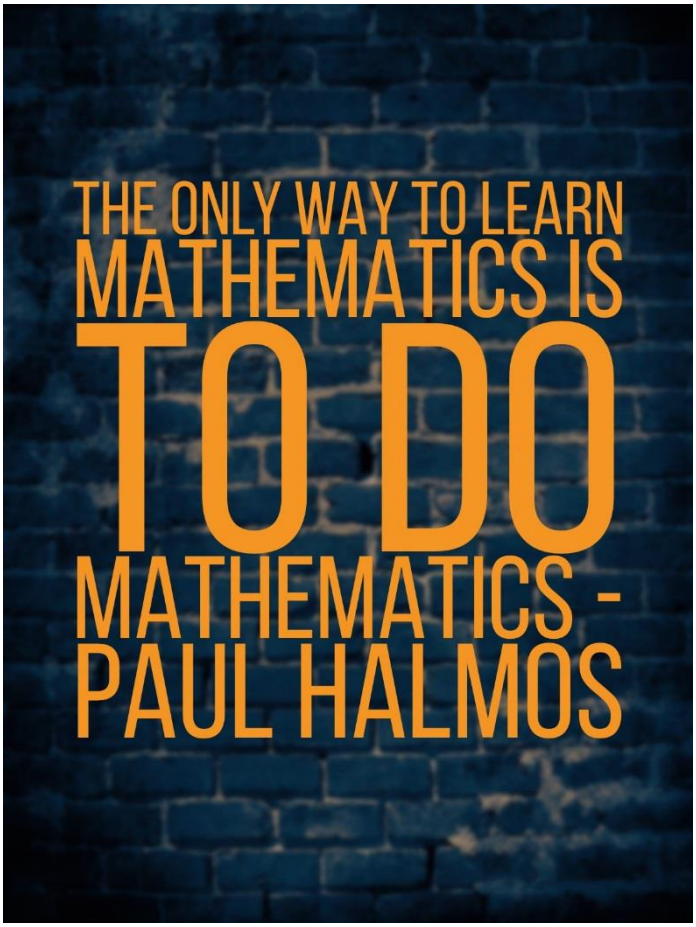
Student Mathematics workbook 2020



Student name

EQUATION TRANSPOSITION WORKSHEET 1

Transposition worksheet 1

Re-arrange the given equation (i.e. transpose the formulae) to solve for the figure that is to the right of the equation.

1. $I = \frac{V}{R}$ R =

2. $P = V \times I$ I =

3 $I = \frac{V}{R}$ V =

4. $W = \frac{Z}{V}$ Z =

Now try the same as above with some Greek Letters α say Alpha, β say Beta, ε say Epsilon, ϕ say Phi, π say Pi, μ say Mu.

5. $\beta = \mu \times \alpha$ α =

6. $\varepsilon = \frac{\phi}{\pi}$ π =

7. $\mu = \frac{\beta}{\alpha}$ β =

8. $Cos\,\phi = \frac{A}{H}$ A =

9. $X_L = 2\pi f L$ f =

10. $X_C = \frac{1}{2\pi f C}$ C=

11. $\beta = \mu_0 \times \mu_r \times H$ $H =$

12. $Q = \dfrac{2\,\pi\, f_0\, L}{R}$ $R =$

13. $Q = m \times c \times \Delta t$ $\Delta t =$

(the Delta and the t are combined in one symbol)

14. $W = \dfrac{1}{2} C V^2$ $C =$

15. $L = \dfrac{\mu_0 \mu_r N^2 A}{l}$ $N =$

16. $R_1 = R_0(1 + \alpha_0 t_1)$ $R_0 =$

17. $f_0 = \dfrac{1}{2\pi}\sqrt{\dfrac{1}{LC}}$ $L =$

18. $\dfrac{R_2}{R_1} = \dfrac{1 + \alpha_0 t_2}{1 + \alpha_0 t_1}$ $t_2 =$

Answers

1) $R = \frac{V}{I}$

2) $I = \frac{P}{V}$

8) $V = I \times R$

9) $Z = W \times V$

10) $\alpha = \frac{\beta}{\mu}$

11) $\pi = \frac{\phi}{\varepsilon}$

12) $\beta = \alpha \times \mu$

13) $A = H \times Cos\phi$

14) $f = \frac{X_L}{2\pi L}$

10) $C = \frac{1}{2\pi f X_C}$

11) $H = \frac{\beta}{\mu_0 \times \mu_r}$

12) $R = \frac{2\pi f_0 L}{Q}$

13) $\Delta t = \frac{Q}{m \times c}$

14) $C = \frac{2W}{V^2}$

15) $N = \sqrt{\frac{l\,L}{\mu_0 \mu_r A}}$

16) $R_0 = \frac{R_1}{1 + \alpha_0 t_1}$

17) $L = \frac{1}{C(f_0 2\pi)^2}$

18) $t_2 = \frac{\left[\frac{R_2(1+\alpha_0 t_1)}{R_1} - 1\right]}{\alpha_0}$