shows a “voltage divider" circuit which consists of 2 resistors connected in series. The current through each of the resistors must be the same because the resistors are in series, i.e. IPS = I1 = I2, while the total voltage VPS equals the sum of voltage on each resistor (Loop rule) so the total resistance of the circuit is equal to the sum of all resistances presented in Eq (3): 1 2 ..... (3)