

$$20v - [(10k\Omega + 5k\Omega + 2k\Omega + 3k\Omega + 10k\Omega) * I] + 10v - 2V_x = 0 \quad (1)$$

$$30v - [(30k\Omega) * I] - 2V_x = 0 \quad (2)$$

$$30v - (30k\Omega)I - 2V_x = 0 \quad (3)$$

$$V_x = 10v - 5k\Omega \quad (4)$$

$$2V_x = 2(10v - 5k\Omega) \quad (5)$$

$$2v_x = 20v - 10k\Omega \quad (6)$$

$$20v - (30k\Omega)I + 10v - (20v - 10k\Omega) = 0 \quad (7)$$

$$20v - (30k\Omega)I + 10v - 20v + 10k\Omega = 0 \quad (8)$$

$$20v - (30k\Omega)I + 10v - 20v + 10k\Omega = 0 \quad (9)$$

$$(10)$$