

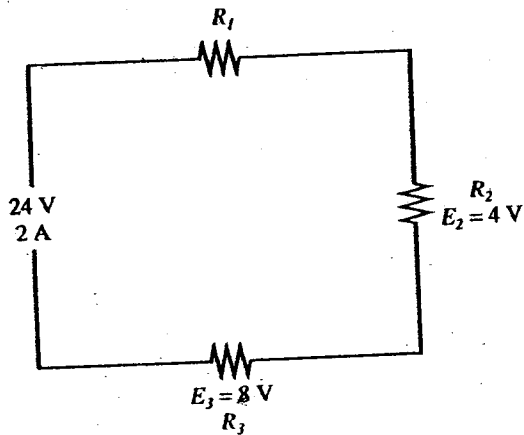
## Practice Sheet 6-1

Name

ANSWER KEY

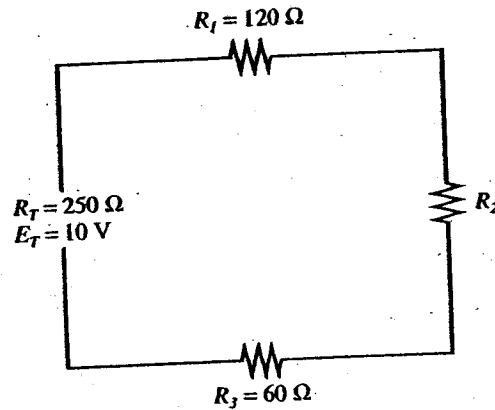
Date

Answer questions 1-10 using the following series circuit.



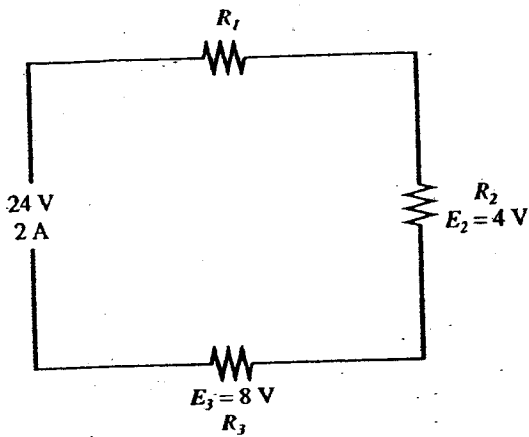
1. Total resistance =  $12 \Omega$
2. Total current =  $2 A$
3. Current at  $R_1$  =  $2 A$
4. Current at  $R_3$  =  $2 A$
5. Voltage drop at  $R_1$  =  $12 V$
6. Voltage drop at  $R_2$  =  $4 V$
7. Voltage drop at  $R_3$  =  $8 V$
8. Total power consumed by the circuit =  $48 W$
9. Power consumed at  $R_1$  =  $24 W$
10. Power consumed at  $R_2$  =  $8 W$

Answer questions 11-20 using the following circuit.



11. Source voltage =  $10 V$
12. Total circuit resistance =  $250 \Omega$
13. Current at  $R_1$  =  $.04 A$
14. Current at  $R_3$  =  $.04 A$
15. Resistance of  $R_1$  =  $120 \Omega$
16. Resistance of  $R_2$  =  $70 \Omega$
17. Resistance of  $R_3$  =  $60 \Omega$
18. Total power consumed by the circuit =  $.4 W$
19. Power consumed at  $R_1$  =  $.19 W$
20. Power consumed at  $R_2$  =  $.11 W$

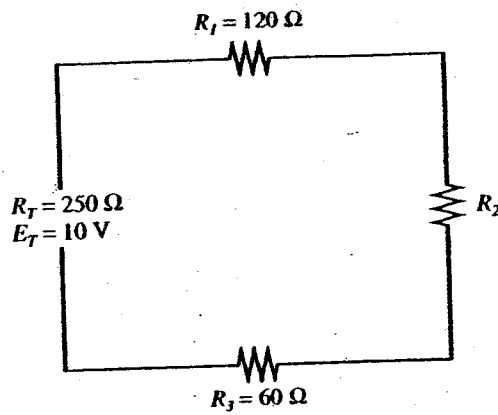
For questions 21–30 using the following series circuit.



- Voltage for  $E_1 = 12V$   
 Total circuit resistance =  $12\Omega$   
 Current at  $R_1 = 2A$   
 Resistance of  $R_1 = 6\Omega$   
 Current at  $R_2 = 2A$   
 Resistance of  $R_2 = 2\Omega$   
 Current at  $R_3 = 2A$   
 Resistance of  $R_3 = 4\Omega$   
 Total power consumed by the circuit =  $48W$   
 Power consumed at  $R_1 = 24W$

Answer questions 31–40 using the following series circuit.

ANSWER KEY



31. Total circuit current =  $.04A$   
 32. Current at  $R_1 = .04A$   
 33. Voltage drop at  $E_1 = 4.8V$   
 34. Current at  $R_2 = .04A$   
 35. Resistance of  $R_2 = 70\Omega$   
 36. Voltage drop at  $R_2 = 2.8V$   
 37. Current at  $R_3 = .04A$   
 38. Voltage drop at  $R_3 = 2.4V$   
 39. Total power consumed by the circuit =  $.4W$   
 40. Power consumed at  $R_1 = .192W$