Assignment 5

1. A circuit contains two ideal voltage sources and three ideal current sources. The voltage sources are 12 V and 18 V, and the current sources are 2 A and 3 A. The circuit is as follows:

   ![Circuit Diagram]

   a) Calculate the total power delivered by the voltage sources.
   b) Calculate the total power delivered by the current sources.
   c) Calculate the total power delivered by the circuit.

2. A circuit contains four ideal voltage sources and two ideal current sources. The voltage sources are 10 V, 5 V, 20 V, and 15 V, and the current sources are 1 A and 2 A. The circuit is as follows:

   ![Circuit Diagram]

   a) Calculate the total power delivered by the voltage sources.
   b) Calculate the total power delivered by the current sources.
   c) Calculate the total power delivered by the circuit.

3. A circuit contains three ideal voltage sources and three ideal current sources. The voltage sources are 8 V, 12 V, and 16 V, and the current sources are 3 A, 4 A, and 5 A. The circuit is as follows:

   ![Circuit Diagram]

   a) Calculate the total power delivered by the voltage sources.
   b) Calculate the total power delivered by the current sources.
   c) Calculate the total power delivered by the circuit.

4. A circuit contains five ideal voltage sources and four ideal current sources. The voltage sources are 3 V, 6 V, 9 V, 12 V, and 15 V, and the current sources are 1 A, 2 A, 3 A, and 4 A. The circuit is as follows:

   ![Circuit Diagram]

   a) Calculate the total power delivered by the voltage sources.
   b) Calculate the total power delivered by the current sources.
   c) Calculate the total power delivered by the circuit.

5. A circuit contains two ideal voltage sources and four ideal current sources. The voltage sources are 14 V and 18 V, and the current sources are 2 A, 3 A, 4 A, and 5 A. The circuit is as follows:

   ![Circuit Diagram]

   a) Calculate the total power delivered by the voltage sources.
   b) Calculate the total power delivered by the current sources.
   c) Calculate the total power delivered by the circuit.

6. A circuit contains three ideal voltage sources and three ideal current sources. The voltage sources are 10 V, 15 V, and 20 V, and the current sources are 2 A, 3 A, and 4 A. The circuit is as follows:

   ![Circuit Diagram]

   a) Calculate the total power delivered by the voltage sources.
   b) Calculate the total power delivered by the current sources.
   c) Calculate the total power delivered by the circuit.

7. A circuit contains four ideal voltage sources and two ideal current sources. The voltage sources are 12 V, 18 V, 24 V, and 30 V, and the current sources are 1 A and 2 A. The circuit is as follows:

   ![Circuit Diagram]

   a) Calculate the total power delivered by the voltage sources.
   b) Calculate the total power delivered by the current sources.
   c) Calculate the total power delivered by the circuit.

8. A circuit contains five ideal voltage sources and four ideal current sources. The voltage sources are 3 V, 6 V, 9 V, 12 V, and 15 V, and the current sources are 1 A, 2 A, 3 A, and 4 A. The circuit is as follows:

   ![Circuit Diagram]

   a) Calculate the total power delivered by the voltage sources.
   b) Calculate the total power delivered by the current sources.
   c) Calculate the total power delivered by the circuit.

9. A circuit contains two ideal voltage sources and four ideal current sources. The voltage sources are 9 V and 12 V, and the current sources are 3 A, 4 A, 5 A, and 6 A. The circuit is as follows:

   ![Circuit Diagram]

   a) Calculate the total power delivered by the voltage sources.
   b) Calculate the total power delivered by the current sources.
   c) Calculate the total power delivered by the circuit.

10. A circuit contains three ideal voltage sources and three ideal current sources. The voltage sources are 6 V, 10 V, and 14 V, and the current sources are 2 A, 3 A, and 4 A. The circuit is as follows:

    ![Circuit Diagram]

    a) Calculate the total power delivered by the voltage sources.
    b) Calculate the total power delivered by the current sources.
    c) Calculate the total power delivered by the circuit.