PROBLEM #3
Find the value of $i_1$, $i_2$, and $v$ in the following circuit. Compute the power delivered by each independent source and the power absorbed by each resistor.

\[ i_2 = 3A \]
\[ i_1 = 2A \]
\[ 5A \]
\[ 5 \Omega \]
\[ 4V \]
\[ 2A \]
\[ 3A \]
\[ 2\Omega \]
\[ 2A \]
\[ 1A \]

\[ KCL: \]
\[ i_1 = 2A \]
\[ i_2 = 3A \]

\[ KVL: \]
\[ -4 - 5i_1 + 4 + 2 \times 2 = 0 \]
\[ -4 - 10 + v + 6 = 0 \]
\[ v = 10V \]

2.5.
\[ P_{5\Omega} = i^2 R = 4 \times 5 = 20W \]

3.5.
\[ P_{2\Omega} = i^2 R = 2^2 \times 2 = 8W \]

2.5.
\[ P_{3A} = +vi = +3 \times 10 = +30W \]

2.5.
\[ P_{4V} = vi = -4 \times 1 = -4W \]