Question 1:

Find the equivalent force couple system for the forces shown below about point A.

\[ \sum F_x = 50 \, N = 50 \, N \]
\[ \sum F_y = -40 \, N - 60 \, N = -100 \, N \]
\[ \sum M_A = 100 \, Nm - (50 \, N)(1.5m) - (40 \, N)(1.5m) \]
\[ - (60 \, N)(2 \, m) = -115 \, Nm \]