SHOW ALL WORK!!!!
REPORT ALL NUMBERS TO THREE SIGNIFICANT FIGURES!
Use the conversion constants and data given on the front page.

For the circuit shown:

(a) How many TOTAL junctions are there?
(b) How many mathematically independent junction equations can be written?
(c) Write the junction equations for junctions A + B in the drawing.
(d) How many mathematically independent loop equations can be written?
(e) Write loop equations for loops I and II in the drawing. For ease in grading, go clockwise around the loop. [Tell us if you use a sign convention different from that used in class.]

a) 6 junctions  
b) 5 equations  
c) A: -I_1 - I_4 - I_5 - I_6 = 0  
B: I_5 + I_7 + I_9 - I_10 = 0  
d) 6 loop equations  
e) I: E_3 - I_{11} R_{11} - E_2 + I_{10} R_{10} = 0  
II: -E_3 + I_8 R_8 + I_9 R_9 - I_7 R_7 = 0