Refer to the above schematic to answer the following True / False questions. Assume a voltmeter will always have the negative lead at ground H and the positive lead will probe the circuit at the described letter. Unless specified, there will be no measurable resistance in any of the ground circuits.

1) T  F  Volts at A will be 12 V
2) T  F  Volts at B will be less than volts at A
3) T  F  Volts at C will be less than volts at B
4) T  F  Volts at D will be less than volts at C
5) T  F  Volts at E will be less than volts at D
6) T  F  Volts at F will be less than volts at D
7) T  F  Volts at G will be less than volts at F
8) T  F  Volts at G will be less than volts at H
9) T  F  Amp flow at A will equal amp flow at H
10) T  F  Amp flow at B will equal amp flow at A
11) T  F  Amp flow at C will equal amperage flow at B
12) T  F  Amp flow at E will equal amp flow at F
13) T  F  Amp flow at F will equal amperage flow at G
14) T  F  Amp flow at G will equal amp flow at H
15) If the resistance for this entire circuit is equal to 2 ohms, how many amps will flow from the battery?

16) If R1 had a value of 3Ω and there were 2 amps flowing from the battery, how much voltage would drop across this resistor?

17) If the ground at point G was to heat up due to a poor connection or undersized wire, what would happen to the current flow out of the battery?

18) What would happen to the voltage drop across R1 if the ground at G was to heat?
Extra Credit

The voltmeter is connected with the black lead at point \( H \) and the red lead at the letter in question

1) Total Circuit resistance is equal to _________

2) What will the total amperage flow from the battery equal? _______________

3) Voltage at \( A \) __________

4) Voltage at \( B \) __________

5) Voltage at \( C \) _________

6) Voltage at \( D \) __________

7) Voltage at \( E \) __________

8) Voltage at \( F \) __________

9) Voltage at \( G \) __________

10) Voltage at \( H \) __________

11) Amperage flow at \( A \) ______________

12) Amp flow at \( B \) __________

13) Amperage flow at \( C \) ______________

14) Amp flow at \( E \) __________

15) Amperage flow at \( F \) ______________

16) Amp flow at \( G \) __________

17) What is the voltage drop across \( R_1 \)? ______________

18) What is the voltage drop across \( R_2 \)? ______________

19) What is the voltage drop across \( R_5 \)? ______________

20) What is the voltage drop across \( R_6 \)? ______________

21) What would happen to the voltage drop across \( R_1 \) if the ground at \( G \) was to heat up excessively?