

# Electric Current Problems

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1. If the current in a wire is measured to be 5 A, how much charge passes by a point in the circuit every minute?

1) 300 C

2. The filament of a light has 1250 C of charge flow through it in 20 min. What is the current in the filament?

2) 1.042 A

3. What is the current in a wire if  $63 \times 10^{-4}$  C of charge passes by a point in 5 seconds?

3) 0.00126 A

4. A load has a current of 60 mA flow through it. What quantity of charge flows through the load in 80 s?

4) 4.8 C

5. How long does it take 50 C of charge to pass by a point if the current in the circuit is 0.89 A?

5) 56.2 A

6. a) If the current in a wire is measured to be 3 A, how much charge passes by a point in the circuit every minute?

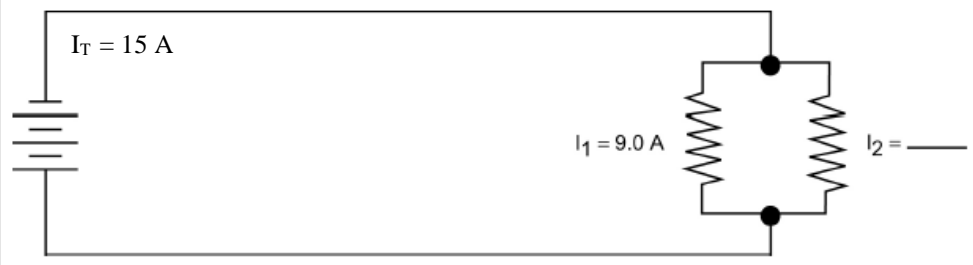
6) 180 C

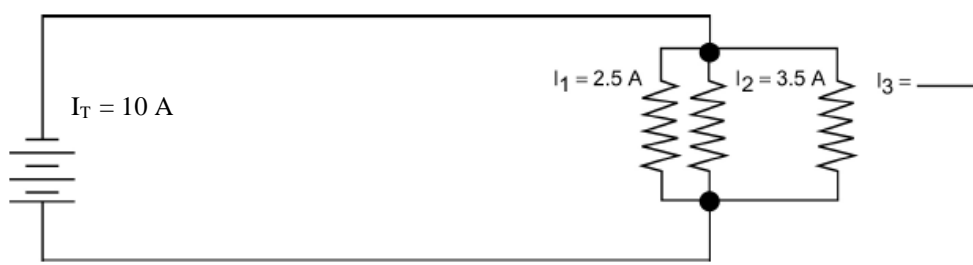
\*BONUS\* b) How many electrons is this? (1 C =  $6.25 \times 10^{18}$  electrons)

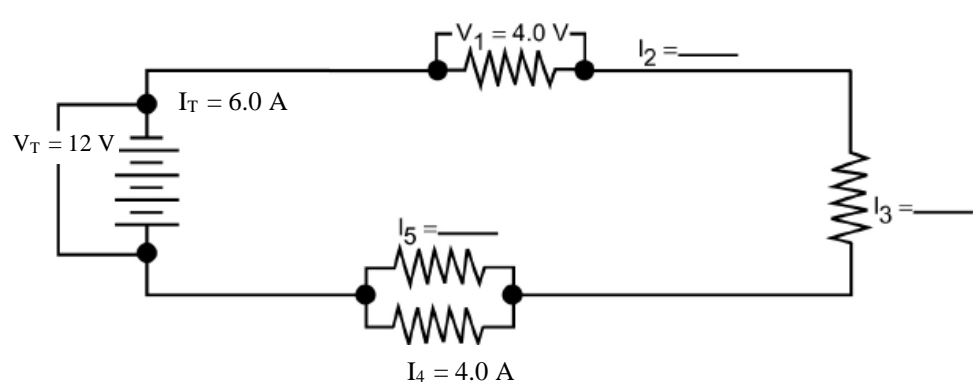
1,125,000,000,000,000,000

# Calculate the Current

Calculate the current in each of the following circuit diagrams. The current at the source is represented by  $I_T$

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|  | <p>1. <math>I_2 = \underline{6\text{ A}}</math></p> |
|--|---|

|   |   |
|---|---|
|  | <p>2. <math>I_3 = \underline{4.0\text{ A}}</math></p> |
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|  |   |
|--|---|
|  | <p>3. <math>I_2 = \underline{6.0\text{ A}}</math><br/> <math>I_3 = \underline{6.0\text{ A}}</math><br/> <math>I_5 = \underline{2.0\text{ A}}</math></p> |
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