

Lesson topic: Electric current
PHYSICS Homework

_____ of 5



1. Please make calculations to solve the word problems. Select the correct answer or type it in when needed..

If the rate of charge flowing past a point in a conductor is 7.2 coulombs per minute , then the current intensity in this conductor is _____ mA .

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|--------------------------------|--------------------------------|
| ☐ A 720 | ☐ C 72 |
| ☐ B 200 | ☐ D 120 |

If a filament of a light bulb experiences a current of 0.3 A , the electric charge that will flow through a point P in the filament in 25 s will be _____ .

- | | |
|----------------------------------|---------------------------------|
| ☐ A 8.3 C | ☐ C 5 C |
| ☐ B 7.5 C | ☐ D 12 C |

A torch works at a current of 150 mA . If 1.95 C of charge is passed through the torch filament, the torch will run for _____ .

- | | |
|----------------------------------|-----------------------------------|
| ☐ A 9.4 s | ☐ C 7.9 s |
| ☐ B 13 s | ☐ D 34.5 s |

If a light bulb can withstand a maximum current of 3 A , how many electrons pass by a point in the filament of the bulb in each second? Take 1.6×10^{-19} C to be the charge of an electron. Give your answer in scientific notation to two decimal places.

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|--|--|
| ☐ A 2.08×10^{18} | ☐ C 9.45×10^{18} |
| ☐ B 4.82×10^{19} | ☐ D 1.88×10^{19} |

If 21 C of electric charge flows past a point in a circuit for 2.5 minutes , then the electric current intensity, in milliamperes, is _____ .

- | | |
|-----------------------------------|------------------------------------|
| ☐ A 140 mA | ☐ C 20 mA |
| ☐ B 840 mA | ☐ D 50.4 mA |