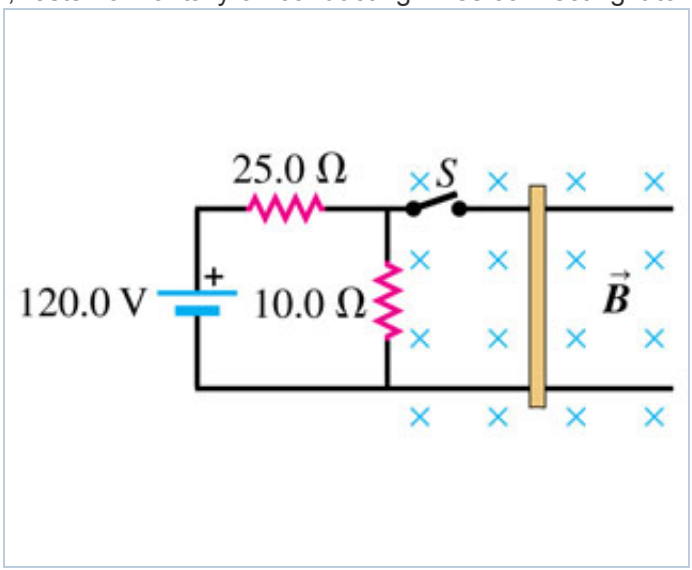
HW due 6/22

Due: 7:00am on Wednesday, June 22, 2016

To understand how points are awarded, read the Grading Policy for this assignment.

Problem 27.62

A 2.60-N metal bar, 0.850 m long and having a resistance of 10.0 Ω , rests horizontally on conducting wires connecting it to the circuit shown in . The bar is in a uniform, horizontal, 1.60-T magnetic field and is not attached to the wires in the circuit.



Part A

What is the acceleration of the bar just after the switch *S* is closed?

Express your answer with the appropriate units.

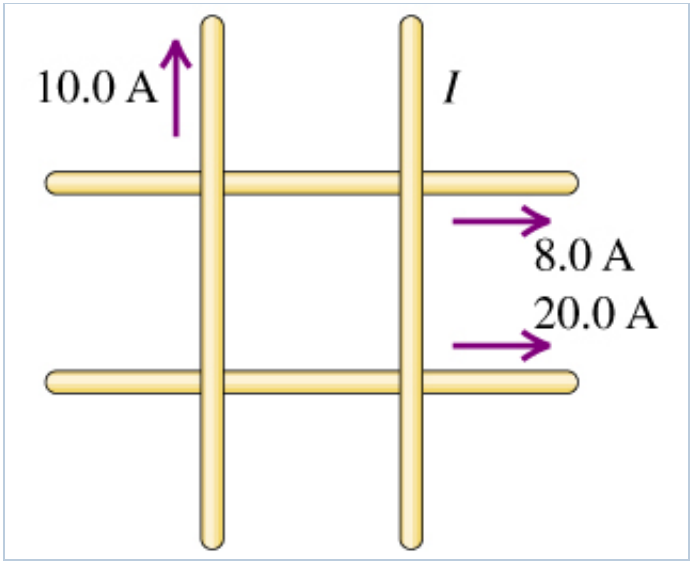
ANSWER:

$a =$ 10.3 $\frac{\mathrm{m}}{\mathrm{s}^2}$

Correct

Exercise 28.26

Four very long, current-carrying wires in the same plane intersect to form a square with sidelengths 35.0 cm , as shown in the figure .



Part A

Find the magnitude of the current I so that the magnetic field at the center of the square is zero.

Express your answer using two significant figures.

ANSWER:

I = 2.0 A

Correct

Part B

Find the direction of the current I so that the magnetic field at the center of the square is zero.

ANSWER:

- upward
- downward (selected)

Correct

Score Summary:

Your score on this assignment is 100%.
You received 10 out of a possible total of 10 points.