

**Answer on Question #48185-Physics-Electric Circuits**

You are required to specify the power rating of a resistor,  $R_1$ , to be used in a car engine management system, so that an order can be placed for the component (resistor).

The resistance required is  $R = 2\Omega$ . The maximum current that will be flowing in the resistor will be  $I = 10A$ .

You only have four ratings to choose from. Select the most appropriate power rating for this resistor.

**Solution**

Given that we know the maximum current and resistance, we can now substitute the values into the power equation of:

$$P = I^2R = 10^2 \cdot 2 = 200 \text{ W}.$$

**Answer: 200 W.**