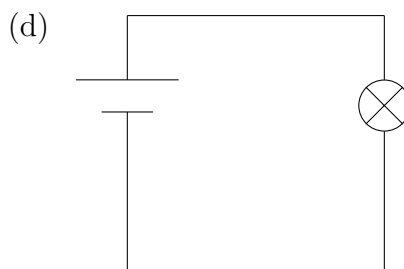
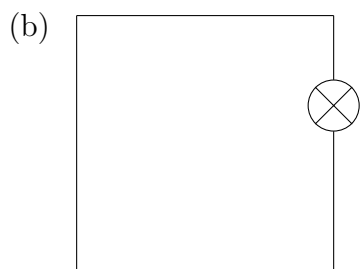
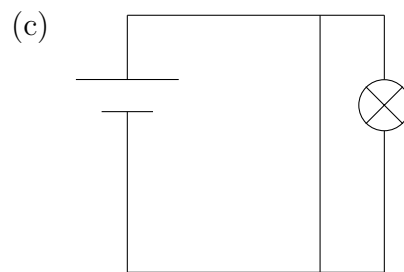
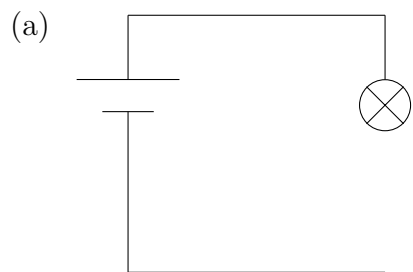


Homework 1

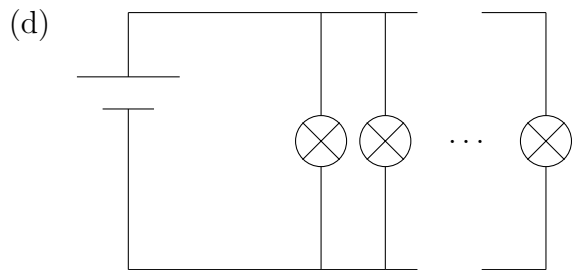
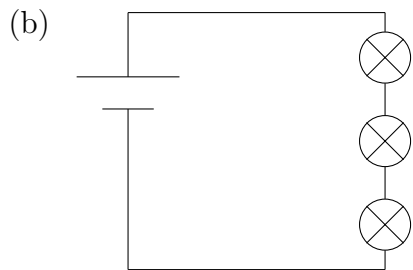
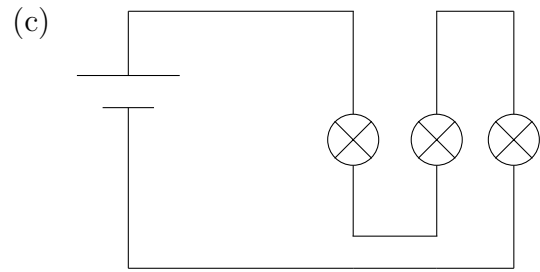
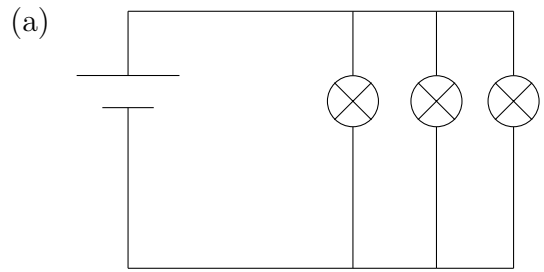
Name: _____

1. Draw a lightbulb showing clearly each part. Which parts are conductors and which are insulators? Include the path taken by charges and the direction.

2. Which of the following circuits will light up the lightbulb?



3. Sort the following circuits in “series” or “parallel”



4. A lightbulb of resistance 3Ω is connected to a $1.5V$ battery.

- (a) Draw a diagram of the circuit.
- (b) Use Ohm's law to find the current (remember to include units)
- (c) Now assume that the circuit above has two lightbulbs in series, each with resistance 1.5Ω . You will learn in future labs that this makes the current flowing through the circuit exactly the same as what you found in part b).

Using Ohm's law for each lightbulb find the potential drop at each lightbulb. What do you notice about the sum of potential drops? [Hint: If you know the current flowing through and resistance of an individual component you can use Ohm's law for that component, i.e. $V_{component} = I_{component} \times R_{component}$]