Quiz #5: Electric Current

Question 1 (2 points)
Compared to the resistance of two resistors connected in series, the same two resistors connected in parallel have

a) more resistance
b) less resistance
c) the same resistance

Question 2 (2 points)
A copper wire is connected to a 6 V battery and has a certain amount of current flowing through it. Which of the following changes will result in an increase in the current in the copper wire?

a) increasing the temperature of the wire
b) increasing the length of the wire
c) increasing the thickness of the wire
d) two of the above
e) none of the above

Question 3 (2 points)
The headlights, radio, and defroster fan in an automobile are connected in

a) series with a switch for each
b) parallel with a switch for each
c) series without separate switches
d) parallel without separate switches

Question 4 (2 points)
Is the current in a light bulb greater immediately after it is turned on or a few minutes later? Explain your answer.

The current is greater immediately after it is turned on because the light bulb is the coolest so its resistance is the least. As the light bulb heats up, its resistance increases so the current in the light bulb decreases.

Question 5 (2 points)
Why are devices in household circuits almost never connected in series?

Devices in household circuits are almost never connected in series because all devices would have to be on at the same time. If one of the devices was turned off, all of the devices would go off.