1. Fill in the table for this circuit. Show your work and then check your answer with PhET



|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | R1 | R2 | R3 | Total |
| V |  |  |  |  |
| I |  |  |  |  |
| R | 0.78 Ω | 1.5 Ω | 3.3 Ω |  |
| P |  |  |  |  |

1. A parallel circuit has 3 resistors each on different paths connected to a 120 V potential difference. The resistors have resistances of 5.0 Ω, 7.5 Ω, and 9.8 Ω. Draw a picture of the circuit in the box and fill in the table for this circuit. Show your work and then check your answer with PhET.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  Add units to measurements | 5.0 Ω | 7.5 Ω | 9.8 Ω | Total |
| V ( ) |  |  |  |  |
|  I ( ) |  |  |  |  |
| R ( ) |  |  |  |  |
| P ( ) |  |  |  |  |

1. For both circuits: Determine the potential difference (voltage) across and the current (amps) through each resistor. Show your work and then check your answer with PhET



|  |  |  |  |
| --- | --- | --- | --- |
|  | R1 = 3 Ω | R2 = 6 Ω | R3 = 9 Ω |
| Voltage (volts) |  |  |  |
| Current (amps) |  |  |  |



|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | R1 = 20 Ω | R2 = 30 Ω | R3 = 50 Ω | R4 = 90 Ω |
| Voltage (volts) |  |  |  |  |
| Current (amps) |  |  |  |  |

1. Construct a complex circuit with 2 resistors in series and 2 in parallel that will produce \_*\_\_\_\_\_\_\_\_*total resistance using PhET. Draw your schematic diagram in the box below. (Hint: there are several correct designs).

Use a 9 V battery and one of each of the resistors: 220 Ω, 100 Ω, 50 Ω, 40 Ω