Basic Circuit Fundamentals:

|  |  |
| --- | --- |
| Image result for series circuits | Image result for parallel circuits |
| Vbat = V1 + V2 + V3  Ibat = I1 = I2 = I3  Req = R1 + R2 + R3 | Vbat = V1 = V2 = V3  Ibat = I1 + I2 + I3  1/Req = 1/R1 + 1/R2 + 1/R3 |

Questions:

1. For the series circuit above, find the equivalent resistance given the following:
   * R1 = 10 Ώ
   * R2 = 20 Ώ
   * R3 = 30 Ώ
2. For the parallel circuit above, find the equivalent resistance given the following:
   * R1 = 10 Ώ
   * R2 = 20 Ώ
   * R3 = 30 Ώ
3. For the series circuit above, find the current through each resistor given the following:
   * Vbat = 120 V
   * R1 = 10 Ώ
   * R2 = 20 Ώ
   * R3 = 30 Ώ
4. For the parallel circuit above, find the current through each resistor given the following:
   * Vbat = 120 V
   * R1 = 10 Ώ
   * R2 = 20 Ώ
   * R3 = 30 Ώ
5. For the series circuit above, find the value of resistor 3 given the following:
   * Vbat = 48 V
   * R1 = 8 Ώ
   * I1 = 2 A
   * R2 = 10 Ώ
6. For the parallel circuit above, find the value of resistor 3 given the following:
   * Ibat = 12 A
   * R1 = 6 Ώ
   * I1 = 2 A
   * R2 = 3 Ώ