**Group Work for 18FGH** Name

**Round your answers to three sig figs (retain five), and show your work.**

**A**

35.0V

3.1 Ω

4.5 Ω

6.7 Ω

1.7 Ω

|  |  |  |
| --- | --- | --- |
| A1 (2.19 A) | A2 (2.19 A) | V1 (3.72 V) |
| V2 (6.78 V) | V3 (24.5 V) | Least power dissipated by a resistor: (the 1.7 ohm: 8.13 W) |

15.0 V

5 Ω

3 Ω

2 Ω

|  |  |  |  |
| --- | --- | --- | --- |
| A1 (15.5 A) | A2 (8.00 A) | A3 (3.00 A) | Greatest power dissipated by a resistor  (the 2 ohm: 112.5 W) |

**B**

45.0 V

4.1 Ω

5.4 Ω

6.3 Ω

4.7 Ω

|  |  |  |
| --- | --- | --- |
| A1 (2.20 A) | A2 (2.20 A) | V1 (20.9 V) |
| V2 (24.1 V) | V3 (10.3 V) | Greatest power dissipated by a resistor:  (the 6.3 ohm: 30.4 W) |

117 V

81Ω

63Ω

45 Ω

|  |  |  |  |
| --- | --- | --- | --- |
| A1 (5.90 A) | A2 (5.90 A) | A3 (3.30 A) | Least power dissipated by a resistor  (the 81 ohm: 169. W) |

**C**  Find these resistances from the black dot to the black dot:

|  |  |
| --- | --- |
| (80 Ω) | (1.36 Ω) |
| (9 Ω) | (4 Ω) |
| (29 Ω) | (25 Ω) |
| 3 + (8-1 + 8-1)-1 + 5 = 12 Ω (Challenge) | 3+(12-1+(16+8)-1)-1+2 = 13 Ω (Challenge) |
| (6.73 Ω) | Draw a picture of a pretty pony here: |