

South Bristol Amateur Radio Club
Lesson 4 – Ohms Law Worksheet



- 1) In the above circuit, how much power would the lamp use?
- a) 750 watts
 - b) 0.75 watts**
 - c) 7,500 watts
 - d) 7.5 watts

$V = 1.5V$
 $I = 500mA = 0.5A$
 $P = ??$

$P = I \times V$
 $P = 0.5 \times 1.5$
 $P = 0.75W$

- 2) What resistance does the lamp in question 1 have?
- a) 3 Ohms**
 - b) 0.003 Ohms
 - c) 750 Ohms
 - d) 300 Ohms

$V = 1.5V$
 $I = 500mA = 0.5A$
 $R = ??$

$R = V / I$ or $R = V \div I$
 $R = 1.5 / 0.5$
 $R = 3\Omega$

3) A typical amateur station will require a 13.8 V DC power supply. It is important that your supply is able to provide enough current at the required voltage. You have a radio that consumes 69 watts on high power (in transmit mode). You will need a power supply that will provide a minimum current of?

- a) 500mA
- b) 5mA
- c) 5A**
- d) 50A

$$V = 13.8V$$

$$P = 69W$$

$$I = ??$$

$$I = P / V \text{ or } I = P \div V$$

$$I = 69 / 13.8$$

$$I = 5A$$

4) If I know the voltage and current consumed by a device, what formula do I need to use to calculate the resistance?

- a) $P = IV$
- b) $R = V/I$**
- c) $R = I/V$
- d) $R = VI$

5) $I=8, V=10, R=?$

- a) 1.25**
- b) 12.5
- c) 125
- d) 1250

$$I = 8$$

$$V = 10$$

$$R = ??$$

$$R = V / I \text{ or } R = V \div I$$

$$R = 10 / 8$$

$$R = 1.25\Omega$$