←---------------- 6 meters ------------→

1. What is the wavelength of the wave above?    4 m

2. What is the amplitude of the wave ?    .25 m

3. Assume the frequency of the wave is 2 Hz, calculate the velocity of the wave   $V = f\lambda = 8$ m/s

4. What is the period of the wave?    $T = \frac{1}{f} = 0.5$ sec

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5. Given 2 resistors R1=100 ohms and R2 = 300 ohms connected in <u>series</u> with a battery supplying 40 volts, draw a proper schematic diagram and then calculate the following:

6. Total Resistance of the circuit    $4 00 \Omega$

7. Total Current through the circuit   $I = \frac{V}{R} = .1 A$

8. Voltage across the 100 ohm resistor   $V = IR = 10 V$



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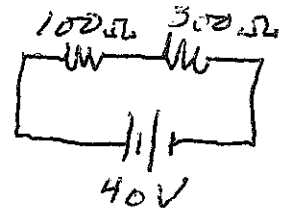
9. Describe completely and in detail the method you would use to charge an object by induction.   P 510

10. Assuming you have an object outside the focal length of a convex lens, draw a ray diagram and locate and label the image. Indicate if it is real or virtual.   P 467

11. A 100 ohm resistor and a 300 ohm resistor are connected in <u>parallel</u> to a 20 volt battery. Calculate the total resistance of the circuit and the current through each resistor
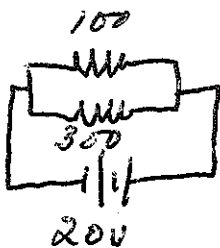


$$\frac{1}{R_T} = \frac{1}{100} + \frac{1}{300} = \frac{1}{75} \quad \therefore R_T = 75 \Omega$$

$$I_{100} = \frac{V_{100}}{R_{100}} = \frac{20V}{100\Omega} = .2 A$$

$$I_{300} = \frac{V_{300}}{R_{300}} = \frac{20V}{300\Omega} = .0667 A$$