Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Class: \_\_\_\_\_\_\_ Date: \_\_\_/\_\_\_/\_\_\_

**Inductive Reactance Written Exam**

1. State three formulas for determining true power.
	1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. State three formulas for determining apparent power.
	1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. State three formulas for determining reactive power.
	1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. State four formulas for determining power factor.
	1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. State the formula for determining quality factor (Q) or figure of merit of an inductor.
6. Compute the applied voltage and impedance in a series RL circuit in which the voltage across the resistor is 50 volts, the voltage across the inductor is 120 volts, and the current is 13 milliamps.
	1. Applied voltage is \_\_\_\_\_\_ volts
	2. Impedance is \_\_\_\_\_\_\_\_ ohms.



1. From the figure above, find:
2. XL =\_\_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_
3. Z =\_\_\_\_\_\_\_\_\_\_ =\_\_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_
4. VR =\_\_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_
5. VL =\_\_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_



1. From the figure above, find:

|  |  |
| --- | --- |
| a. XL =\_\_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_ |  |
|  |
|  |
| b. Z =\_\_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_ |
|  |
|  |

1. I =\_\_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_
2. VR = \_\_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_
3. VL = \_\_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_



1. From the figure above, find:
	1. XLT =\_\_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_
	2. Z = \_\_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_
	3. I = \_\_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_
	4. VL = \_\_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_

e. θ = \_\_\_\_\_\_\_\_\_\_



1. From the figure above, find:
	1. XLT =\_\_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_
	2. Z = \_\_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_
	3. I = \_\_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_
	4. VL = \_\_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_
	5. θ = \_\_\_\_\_\_\_\_\_\_