

Blitz, Ch 9, Form S

Name _____ Period _____

This is a Take Home Exam. You may use your Notes, PowerPoint, or Text on this exam but NO help from human beings!

EXPLAIN IN COMPLETE SENTENCES AND GIVE EXAMPLES:

You MUST HAND WRITE THIS EXAM!! NO TYPED PAPERS WILL BE ACCEPTED!

***** SHOW METHOD OF SOLUTION FOR ALL PROBLEMS (The 1,2,3,4!)**

1. A catapult spring is stretched 0.021 m by a force of 5.20 n. How much will it be stretched by a force of 2.80 n?
2. A copper wire 50.0 cm long and 0.100 cm in diameter is suspended from a support. A 20.0 kg mass is hung from it. Find the stress.
3. Find the density of a secret mineral that masses 28.2 g in air and 13.4 g under water.
4. Calculate the number of kilograms needed to pull apart evacuated hemispheres whose radii are 10.0 cm.
5. Define: Element, Compound, Atom, Molecule, Atomic Mass Unit, and Atomic Mass Number.
6. What is Archimedes' Principle and how did he use it to solve the problem of the king's crown?
7. Define pressure and describe an example of pressure in a solid, a liquid, and a gas.
8. State Bernoulli's Principle and describe five examples.
9. Explain what surface tension is, how it is formed, and give two examples.
10. Discuss FIVE evidences supporting the Kinetic Theory.

FORMULAS: For a spring: $F = k\Delta d$... stress = F/A ... strain = $\Delta l/l$... $Y = \text{stress/strain}$...

$$Y_{\text{Au}} = 7.85 \times 10^{10} \text{ n/m}^2 \dots Y_{\text{Al}} = 6.96 \times 10^{10} \text{ n/m}^2 \dots Y_{\text{Cu}} = 11.6 \times 10^{10} \text{ n/m}^2$$

$$P = f/A \dots TF = PA \dots P_{\text{atm}} = 10 \text{ m H}_2\text{O} \dots P_{\text{atm}} = 760 \text{ mm Hg} \dots P_{\text{atm}} = 1 \text{ kg/cm}^2$$

When finished, please STAPLE this exam onto your papers and turn in on due date.