**Unit 5 Test**

1. What is a characteristic of a metallic bond? Select ALL that apply
   1. Sea of electrons
   2. Brittle
   3. Ductile
   4. Malleable
2. What is a characteristic of an ionic bond?
   1. Will conduct electricity when dissolved
   2. Crystalline Structure
   3. Sea of electrons
   4. Malleable
   5. A and B
3. What type of elements does a covalent bond hold together?
   1. Two nonmetals
   2. Metal and Nonmetal
   3. Two metals
4. The cation in an ionic bond refers to
   1. The nonmetal
   2. The bond
   3. The electrons
   4. The metal
5. How many TOTAL electrons are shared with a triple covalent bond?
   1. 6
   2. 5
   3. 2
   4. 3
6. True or False: Metallic bonds have a sea of electrons that keep them from conducting electricity
   1. True
   2. False
7. If an ion gains electrons it becomes…
   1. Negative
   2. Cation
   3. Positive
   4. Isotope
8. Work is measured in
   1. Watts
   2. Energy
   3. Joules
   4. Newtons
9. What do we measure in Watts?
   1. Work
   2. Energy
   3. Distance
   4. Power
10. True or false: If there is no motion, there is no work
    1. True
    2. False
11. True or False: If the force is going in the opposite direction of motion, there is work being done.
    1. False
    2. True
12. If there is more power being done
    1. Work isn’t getting done at all
    2. Work stays the same no matter what
    3. Work happens slower
    4. Work happens faster
13. What type of bond is in the following compound: SeF6
    1. Ionic
    2. Metallic
    3. Covalent
    4. Hydrogen
14. What type of bond displays an unequal sharing of electrons?
    1. Polar Covalent
    2. Non-polar Covalent
    3. Hydrogen
    4. Ionic
15. If there is an unequal sharing of electrons, what will happen at the poles
    1. No affect
    2. Both positive
    3. Both negative
    4. One positive, one negative
16. In a polar molecule, the atom with more electrons will be
    1. Slightly Positive
    2. Slightly Negative
    3. Unchanged
    4. Neutral
17. What type of bond is in the following compound: Antimony tribromide
    1. Covalent
    2. Metallic
    3. Ionic
18. What type of bond is in the following compound: Ga(NO2)3
    1. Covalent
    2. Metallic
    3. Ionic
19. What is the correct name for the following compound: CrF2
    1. Chromium (I) Fluoride
    2. Chromium Difluoride
    3. Chromium (II) Fluoride
20. What is the correct name for the following compound: NF3
    1. Mononitrogen Fluoride
    2. Nitrogen Fluoride
    3. Mononitrogen triflouride
    4. Nitrogen trifluoride
21. What is the formula for the following compound: Vanadium (V) phosphate
    1. V3(PO4)5
    2. V5P
    3. VP5
22. What type of bond is in the following compound: HI
    1. Dipole
    2. Covalent
    3. Metallic
    4. Ionic
23. What type(s) of bond is in the following compound (MARK ALL THAT APPLY):

H2O

* 1. Covalent
  2. Polar
  3. Hydrogen

1. What is the correct formula for the following compound: Lead (II) Sulfide
   1. L2S
   2. Pb2S
   3. PbS
2. What is the correct formula for the following compound: Zinc Nitrate
   1. ZN
   2. Zn2N3
   3. Zn3N2
3. What type of bond exists in the following compound: Brass
   1. Hydrogen
   2. Ionic
   3. Covalent
   4. Metallic
4. A bodybuilder pushes up the bar from a squat, is there work being one?
   1. No
   2. Yes
5. A bodybuilder is holding the bar over his head, is there work being done?
   1. Yes
   2. No
6. A crate is being lifted into a truck. If it is moved with a 2470 N force and 3650 J of work is done, then how far is the crate being lifted?
   1. 12.15 m
   2. .1215 km
   3. 0.6 km
   4. 0.6 m
7. An elephant pushes with 2000 N on a load of trees. It then pushes these trees for 150 m. How much work did the elephant do?
   1. 1.71 x 106 J
   2. 17000 J
   3. 2.11 x 104 J
   4. 211 J
8. A runner exerts 450 J of work to make 150 W of power, then how long did it take the runner to do the work?
   1. 3.0 sec
   2. 3.0 minutes
   3. 67500 seconds
   4. 2.8 seconds
9. A television converts 18,000 joules of electrical energy into light and sound ever minute. What is the power of the television?
   1. 200 W
   2. 300 W
   3. 400 W
   4. 500 W
10. A horse performs 250,000 joules of work tilling a field for 18 minutes. What is the horse’s power?
    1. 11111.1 W
    2. 3.6 W
    3. 231.48 W
    4. 700 W
11. A 635-watt hairdryer is used for 120 seconds. How many joules of energy are used?
    1. 76200 Joules
    2. 76 Joules
    3. 200 Joules
    4. 587 Joules
12. How much work is done on a baby carriage if the mom pushes it with 4 N to move it 30 m?
    1. 12 Joules
    2. 6 Joules
    3. 100 Joules
    4. 120 Joules

**Extra credit: (**Answer on back of scantron in green section. SHOW WORK)

Suppose a crane picks up a shipping container weighing 32000 pounds, lifting it 17 feet above the ground, moving it horizontally 260 feet to a warehouse, and then setting it down into a pit 5 feet below ground level. Calculate the total (net) amount of work done by the crane on the shipping container from its starting point (on the ground) to its destination (in the pit).