**Unit 9 – Work & Power**

1. What is the unit for work? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. What is the unit for power? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. What is the unit for time? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. What is the value for gravity? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. What is the equation to calculate work? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. What is the equation to calculate power? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
7. What 2 things do you need to know to calculate work?
8. Draw the triangle for work. List all equations you can get from this triangle off to the side.
9. What 2 things do you need to know to calculate power?
10. Draw the triangle for power. List all equations you can get from this triangle off to the side.
11. If you drop a piano from a 2 story house, is work being done? Why?

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1. What is doing the work on the piano from question 78 above?

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1. If you hold an angry cat above your head are you doing work? Explain

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1. If Mr. Litchfield has a mass of 100 kilograms and climbs up stairs that are 20 meters tall then how much work was done?

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| Givens | | Solving For | |
| Equation | Substitution | | Answer with Units |

1. If 100 Joules of work are done by lifting a box 1.5 meters then how much force was on the box?

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| Givens | | Solving For | |
| Equation | Substitution | | Answer with Units |

1. If you push on a box, but it does not move, is there any power occurring? Explain.

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1. Would you use more power walking or running up the stairs? Explain and relate back to lab.

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1. Superman moves a car with 30000 N on a track of 1000 m. If the car takes 30 seconds to move the entire distance, how much power is exerted by the car on itself? (Hint: there are a 2 steps)

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| Equation | Substitution | | Answer with Units |

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