Physics worksheet for 13.10.2017.

s is your student number. k = s mod 10000. T = s mod 100. m = s mod 35. a = s mod 25.

L = s mod 10. $d\_{2}=\frac{T-L}{10}$. e = s mod 8. m7 = s mod 7. m6 = s mod 6. m5 = s mod 5. m4 = s mod 4.

m3 = s mod 3. m2 = s mod 2. u = s + 10000.

1. Find gravity acceleration g, orbital velocity Vo and escape velocity Ve for planet with mass s billion tons and radius s millimeters.

https://physics18.weebly.com/uploads/5/9/8/5/59854633/g1orbital1velocity1escape1velocity13oct2017.txt

s = 17108073

GG = 6.6740831 \* 10 ^ (-11)

M = 10 ^ 12 \* s

R = s / 1000

g = GG \* M / R ^ 2

MsgBox g

Vo = Sqr(g \* R)

MsgBox Vo

Ve = Sqr(2 \* g \* R)

MsgBox Ve

2. Calculate the Schwarzschild radius for the k grams desk.

http://physics16.weebly.com/uploads/5/9/8/5/59854633/radius4schwarzschild.txt

n = 15108097

k = n Mod 10000

T = n Mod 100

c = 2.99792458 \* 10 ^ 8

G = 6.67408 \* 10 ^ (-11)

M = k \* 10 ^ (-3)

Rs = 2 \* G \* M / c ^ 2

MsgBox Rs

3. Find the displacement of a harmonic oscillator after s seconds with amplitude k, frequency k and initial phase k/2.

 http://physics16.weebly.com/uploads/5/9/8/5/59854633/harmonic4oscillator.txt

4. Solve the string oscillatory equation for v = T. Find the displacement after s seconds at m meters.

 http://physics16.weebly.com/uploads/5/9/8/5/59854633/string\_equation\_solution.txt

5. The thermal expansion rate α is 1/k. The temperature change is T degrees.

 a. Find the extension of m meters rod due to the temperature change.

 b. Find the approximate volume change of m meters cubed cube due to the temperature change.

 http://physics16.weebly.com/uploads/5/9/8/5/59854633/thermal4expansion.txt

6. There are two bodies in a thermodynamically isolated system: C1 m1 T1 and C2 m2 T2. Find the resulting temperature T. m1 = k, m2 = 2k. C1 = k/11, C2 = k/222, T1 = k/111, T2 = k/22

 http://physics16.weebly.com/uploads/5/9/8/5/59854633/result4temperature.txt

7. Solve the password and the number puzzles problems for your s.

 http://calculus17.weebly.com

8. Estimate the distances between the atoms of element number T in the periodic table of elements.

 http://physics16.weebly.com/uploads/5/9/8/5/59854633/distance\_between\_particles.txt

9. Find the force between two charges of L and T Coulombs for the distance apart of m meters.

 http://physics16.weebly.com/uploads/5/9/8/5/59854633/coulomb\_force.txt

10. Solve the simplified Maxwell Equations for c = 300000000-s. Find the intensity of electric field after s seconds at m meters.

 http://physics16.weebly.com/uploads/5/9/8/5/59854633/maxwell\_equations\_solution.txt

11. Improve your project.