PHYSICS MATH REVIEW NAME_____

Physics is not just a math course made up of word problems, but rather uses math as a tool to understand and explain the world around us. To be successful, you must understand the concepts represented in physics. However, you will still encounter numerous situations in this course that necessitate good math skills.

Solve the following, preferably with a calculator. For this review it is not necessary to show your work, and at this time, do not worry about what the formulas represent.

Conversions/Dimensional Analysis (you made need to look up your metric prefixes)

1. 1000 kilograms(kg) _____grams (g)

2. 45 millimeters (mm)=_____ Centimeters (cm)

3. 5.3 km =_____meters (m)

4. 12 hours (hrs)=_____seconds (s)

5. 600 m/s = _____ km/hr

Scientific Notation

6. $2.9 \times 10^5 - 6.6 \times 10^3$

7. $8.7 \times 10^{-4} \times 7.6 \times 10^9$

8. $6.3 \times 10^6 \div 8.2 \times 10^{14}$

9. $7.4 \times 10^3 \div 3.5 \times 10^{-2}$

Solving for a variable

10. Rearrange the formula so that ‘a’ is alone and on top. (a.k.a. solve for **a**)

$F = ma$

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11. Rearrange the formula so that ‘t’ is alone and on top. (a.k.a. solve for **t**)

$P = W/t$

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12. Solve for **n**

$f = nv/(2L)$

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13. Solve for L

$f = nv/(2L)$

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14. Solve for **x**

$y = mx + b$

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15. Solve for **t**

$y = ½ x(t)^2$

Solve for unknown when numbers are given SPACE FOR WORK IF NEEDED

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16. Given: $F = ma$
$F = 4500$
$a = 30$

Find m:

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17. Given: $V = I/R$
$V = 20$
$I = 5$

Find R:

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18. Given: $\Delta x = \frac{1}{2}(v_i + v_f)\Delta t$
$\Delta x = 20$
$v_i = 4$
$\Delta t = 2$

Find: v_f

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19. Given: $v_f^2 = v_o^2 + 2a\,\Delta x$
$v_f = 10$
$a = -2$
$\Delta x = 5$

Find v_o

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20. Given: $\Delta x = v_o\Delta t + \frac{1}{2}a(\Delta t)^2$
$\Delta x = 100$
$v_o = -4$
$a = 3.5$

Find Δt

21. Given: $\frac{1}{2} mv_i^2 + mgh_i = \frac{1}{2} mv_f^2 + mgh_f$

$v_i = 5$

$m = 2$

$g = 10$

$h_i = 50$

$h_f = 20$

Find v_f

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22. Given: $F = \frac{k_c(q_1 q_2)}{r^2}$

$k_c = 8.99 \times 10^{9}$

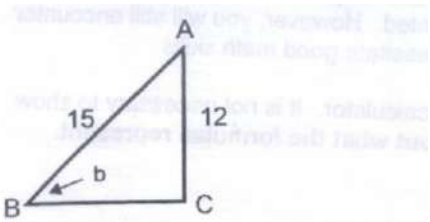
$q_1 = 1.6 \times 10^{-19}$

$q_2 = 1.6 \times 10^{-19}$

$F = 7.5 \times 10^{-8}$

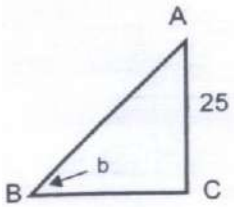
Find r

23. FIND THE ANGLE OF THE RIGHT TRIANGLE



Find the measurement of angle b.

24. SOLVE FOR SIDE AB IN THE RIGHT TRIANGLE



If angle b is 43°, what is the length of AB?

25. Given: $W = Fd(\cos\theta)$

$F = 50$

$d = 8$

$\theta = 45^{o}$

25.

Find the slope of the line.