

# Review for Trimester # 1 Final

Answer  
key

Booklet 41

Physics  
Mr. Bari

### Physics Formula Sheet

#### Part # A

Collected from Regents physics Reference Table

1)  $\vec{d} = d_f - d_i$   $\vec{d}$  = displacement

2)  $\bar{v} = \frac{\text{total distance}}{\text{total time}}$   $\bar{v}$  = Average speed

3)  $d = v_i t + \frac{1}{2} a t^2$

4)  $d = \frac{v_i + v_f}{2} t$

5)  $v_f = v_i + a t$

6)  $v_f^2 = v_i^2 + 2 a d$  ✓

#### PART # B

For PT Graph

$$\vec{d} = d_f - d_i$$

$$v = \frac{\vec{d}}{t_f - t_i}$$

For VT Graph

$$\vec{v} = \frac{v_f + v_i}{2}$$

$$a = \frac{v_f - v_i}{t_f - t_i}$$

$$\vec{d} = (\vec{v})(t)$$

or  
 $\vec{d}$  = Area under the curve

$$A = bh \text{ or } A = \frac{1}{2} bh$$

$$\frac{v_f - v_i}{t_f - t_i}$$

#### PART # C

$$Q = (F^2 - 32) \frac{5}{9}$$

$$^{\circ}F = \frac{9}{5} ^{\circ}C + 32$$

$$K = ^{\circ}C + 273$$

power rule

$$x^N = N x^{N-1}$$

Pythagorean Theorem  $a^2 + b^2 = c^2$

1. Mr. Bari is pulling upon a rope that is attached to Richie. Mr. Bari is pulling a rope that is attached to Luis. In each case, the force scale reads 100 N. Mr. Bari ....

- (a) Exerts more force when its attached to Richie because he is heavier
- (b) Exerts more force when its attached to Luis because he is is shorter
- (c) Is pulling at the same force

~~270K + 10F + 100~~

c

②  $10K + 10F + 100$   
 ~~$10K + 260.78K + (273+10)$~~   
 $10K + 260.78K + 783K$   
 $= 1053.78K$

$$C = (F - 32) \frac{5}{9}$$

$$C = (10 - 32) \frac{5}{9}$$

$$C = (-22) \frac{5}{9}$$

$$C = -12.22$$


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$$K = -12.22 + 273$$

$$K = 260.78$$

3.  $10 \text{ km} + 10 \text{ m} + 10 \text{ cm} + 10 \text{ mm}$

This SI unit  
Represent  $\leftarrow$  length  $\rightarrow$

The SI unit for  
length is Meter

Convert everything to  
meter,

$$10,000 \text{ m} + 10 \text{ m} + 0.1 \text{ m} + 0.01 \text{ m}$$

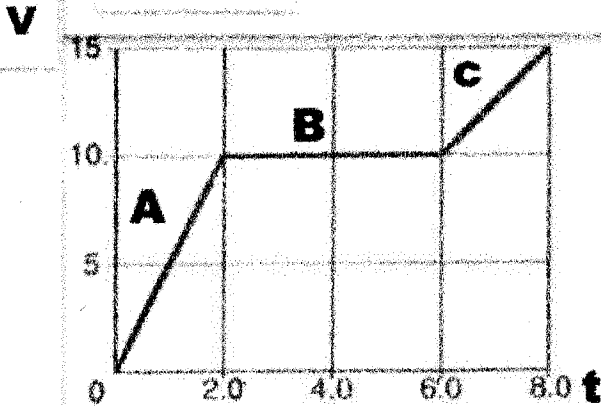
$= 10010.11 \text{ m}$

Kangaroo Help Dog  
because Dog can't multiply

Kilometer		
Hectometer		
Dekameter		
meter		
Decimeter	0.1	0.01
Centimeter	1	1
millimeter	10	1
		10

4.

## Velocity Vs. Time Graph



1. Find the followings: (a) displacement (b) Velocity (c) Acceleration  
 (d) displacement over the entire trip and velocity over the entire trip  
 (Be careful!)

it's a VT graph

(a)

Section	time	$\bar{v}$	d	a
A	0 - 2	$\frac{10+0}{2} = 5$	$(\bar{v})(t)$ $(5)(2) = 10$	$a = \frac{v_F - v_i}{t_F - t_i}$ $= \frac{10-0}{2-0} = 5 \text{ m/s}^2$
B	2 - 6	$\frac{10+10}{2} = 10$	$(10)(4) = 40$	$\frac{10-10}{6-2} = \frac{0}{4} = 0$
C	6 - 8	$\frac{15+10}{2} = 12.5$	$(12.5)(2) = 25$	$\frac{15-10}{8-6} = \frac{5}{2} = 2.5 \text{ m/s}^2$

