

REVIEW SHEET FOR CHAPTER I

RS I

Vocabulary:

Absolute Uncertainty (p. 2, 13)	Force (6, 7)	Proportionality Const. (5,8)
Accelerate (9)	Fractional Change (10R)	Range (2, 4, 4R, 13)
Acceleration (9, 13)	Free Fall (8, 12)	Ratio (5, 10)
Amplitude (3)	Frequency (11, 12)	Reaction Time (4)
Average Speed (8)	Gravitational Field Strength (6)	Scale Division (1)
Bogus digit (13, 14)	Gravity (7)	SDC (1)
Change in "x" (8,10)	Histogram (2, 11)	Significant Digit (13, 14)
Conclusion (3, 7, 7b)	Increase by a Factor of N (5,10)	Simple Pendulum (3)
Controlled Variable (5)	Linear Relation (7,10)	Slope (7)
Conversion Factor (7)	Mass (6)	Spring Scale (6)
Data Table (6)	MLV, GLV, SLV (2, 3, 4, 4R, 13)	Tension (6)
Dependent Variable (5)	Movable Pulley (1)	Tick (8)
Direct Proportion (5, 10, 11)	Period (of a Pendulum) (3)	Uncertainty (3)
Divisor (9)	Percent Change (10R)	Variable (5, 10)
Fixed Pulley (1)	Percentage Uncertainty (10R, 11, 13)	Weight (0, 6)
	Precision (of a measurement) (2)	

Discoveries

1. When we multiply or divide two numbers, what do we do with their units? (4R, 6, 8, 14)
2. How do we divide fractions? (9, 12R, 13)
3. When you use a pulley to lift an object, how can you predict how far it will be lifted? (1)
4. How can you alter the period of a simple pendulum? (3, 7, 18b)
5. What is the smallest fraction of a second that you can measure with a stopwatch? (3)
How can reaction errors be minimized when measuring periods or frequencies? (4)
6. How can the precision of such measurements be improved? (4,11)
7. If the graph of A vs B is a straight line through the origin then: (5)
 - a. A and B must be _____s, (plural noun) and ____ depends on ____.
 - b. A must be _____al to B.
 - c. The graph can be described by an equation with the form $A = \underline{\hspace{1cm}}$.
 - d. In that equation "____" represents a "_____ality constant", or _____ of the graph.
 - e. If (A_1, B_1) represents one point on the graph, and (A_2, B_2) represents another, then $A_2/A_1 = \underline{\hspace{1cm}}$.
 - f. An x-percent change in B will cause an ____-percent change in A. (10)
8. What is the purpose of the line that you draw among the data points on a graph? (5, 9)
9. How do you determine the slope of a line on a graph? (5, 9)
10. How does the circumference of a circle depend on its radius? (5)
11. Hooke's equation: How is the tension of a spring related to its amount of stretch? (7, 10)
12. How are mass and weight related? $\underline{\hspace{1cm}} = \underline{\hspace{1cm}}$ (6)
-How strong is the gravity here in Connecticut? $\underline{\hspace{1cm}}$ $\underline{\hspace{1cm}}$ -on the moon? $\underline{\hspace{1cm}}$ $\underline{\hspace{1cm}}$
13. How do we cause an object to accelerate? (8) _____
14. How can acceleration be determined from a velocity-time graph? (9)_____
15. At what rate does a freely-falling object accelerate near the surface of the earth? (9, 12, 12R, 13)
16. How can a number in range form be converted into an MLV with an absolute uncertainty? (3, 4R, 13)
- 17 a. How can the range of a sum or difference be estimated? (4R)
 - b. How can the *uncertainty* of a sum or difference be estimated? (4R)
 - c. How can the *range* of a product be estimated? (4, 4R)
 - d. How can the *range* of a quotient be estimated? (4, 4R)
 - e. How can the *uncertainty* of a product be estimated? (14)
18. Given an old value and a new value, how do we calculate the percent change? (shortcut on page 10R)
19. How can an absolute uncertainty be converted into percentage form? (9b, 10R, 11, 13)
20. How do you use a histogram to determine the uncertainty of a measuring technique? (2, 11)
21. If a measured quantity and a counted quantity are multiplied or divided, how does the percentage uncertainty of the result compare with the percentage uncertainty of the original measured quantity? (11)