SUVA SANGAM COLLEGE

YEAR 11

PHYSICS

WORKSHEET 2

STRAND 1 MECHANICS

NO.	**CONCEPT IN BRIEF: MEASUREMENT** **SIGNIFICANT FIGURES** 1. All **non-zero** digits are significant. (i) 14321 (5sf) 2. Zeros placed between two non-zero digits are significant. (i) 5002 (4sf) 3. Zeros to the left of a non-zero digit are not significant. (i) 004 (1sf) 4. Zeros placed to the right of a non-zero digit after a decimal point is significant. (i) 2.0 (2sf) 5. Zeros placed at the end of a number are **ambiguous**. Number of significant digits is indicated by writing the number in standard form. (i) 1.5×10^3 (2sf)
1	How many significant figures are in each of the following measurement? (i) 0.003 (ii) 1020 (iii) 30.00 (iv) 1.01 **(v)** 4.2×10^3
	CONCEPT IN BRIEF: MEASUREMENT **ARITHMETIC WITH SIGNIFICANT FIGURES** Every recorded measurement has a certain number of significant digits. **Addition and Subtraction** When adding or subtracting quantities, the answer should have the same number of decimal places as the value with the smallest number of decimal place that we want to add or subtract. **Examples** Evaluate: (i)3.02 cm + 4. 1cm =7.12 cm $\Rightarrow$7.1cm [Answer rounded to 1 decimal place]

2.	Evaluate the following: 1. $2.356 - 0.21$ 2. $0.01 + 2.1$ 3. $10.45 - 0.2$ 4. $100 - 1.6$ 5. $0.258 + 3.2165$.
	CONCEPT IN BRIEF: MEASUREMENT **Multiplication and Division** When multiplying of dividing quantities, the answer should have the same number of significant figures as the quantity with the lowest number of significant figures. **Example** 10.45 x 0.03 = 0.3135 $\Rightarrow$0.3 [Answer rounded to 1 significant figure]
3	Evaluate the following: 1. 12.05×0.34 2. 0.25×1.58 3. $120 \div 4.35$ 4. $15.06 \div 2.3$ 5. 5.65×0.4