SPH3U-R MEASUREMENT & ANALYSIS: DUOTANG (PART 1) QUIZ#1

PART A: MULTIPLE CHOICE (10 MARKS)

1	2	3	4	5	6	7	8	9	10
b	b	c	a	a	d	d	c	c	b

PART B: MATCH (5 MARKS)

1	2	3	4	5
J	A	D	I	E

PART C: SHORT ANSWER (20 MARKS)

Answer the following questions in the space provided.

{4} 1. Use the chart given to the right to convert each measurement below into the given units.

A	1.0 cm	1.0×10^{-5}	km
B	720 cm	7200	mm
C	0.093 km	9300	cm
D	1.0 m^3	1.0×10^{6}	cm^3

Factor	Prefix	Symbol
10^9	giga	G
10^6	mega	M
10^3	kilo	k
10^2	hecto	h
10^1	deka	da
10^0	-------	-------
10^{-1}	deci	d
10^{-2}	centi	c
10^{-3}	milli	m
10^{-6}	micro	μ
10^{-9}	nano	n

DON'T FORGET!!
k↔M↔G & m↔μ↔n represent steps of 3

{3} 2. A train is travelling at 85 km/h. Using unit analysis, convert 85 km/h into metres per second (m/s). Be sure to show your work!

$$85\ \frac{km}{h} \times \frac{1000\ m}{1\ km} \times \frac{1\ h}{3600\ s}$$

$= 23.611...$

$= 24$ m/s

{3} 3. An athlete completed a 15-km race in 29.5 min. Using unit analysis, convert this time into hours. Be sure to show your work!

$$29.5\ min \times \frac{1\ hr}{60\ min}$$

$= 0.4916...$

$= 0.492$ hr

{10} 4. ① Indicate the precision and the # of significant digits of the following measurements in the space provided.
② Round off the measurements to the correct number of digits needed.
③ Express these rounded measurements in proper scientific notation in the last column. See example.

	MEASUREMENT	PRECISION	# OF SIG. DIG. NOW	# OF SIG. DIG. NEEDED	MEASUREMENT ROUNDED OFF	MEASUREMENT IN SCI. NOT.
	63.479 m (*example*)	3	5	3	63.5 m	6.35×10^1 m
A	0.004 659 m	6	4	2	0.0047 m	4.7×10^{-3} m
B	5 803 L	0	4	1	6000 L	6×10^3 L
C	565 g	0	3	2	570 g	5.6×10^2 g
D	123 456.7 mm	1	7	3	123000 mm	1.23×10^5 mm
E	2.074 802 MW	6	7	4	2.075 MW	2.075×10^0 MW