

Section 1A Review

Name: _____

Part 1: Convert the following values to the desired units. Show work.

1) $0.23 \text{ km} = 230,000 \text{ mm}$

6) $50.0 \text{ dm} = 197 \text{ in}$

2) $4600 \text{ pg} = 0.0046 \text{ }\mu\text{g}$

7) $0.0056 \text{ gal} = 21 \text{ mL}$

3) $240 \text{ lb} = 110 \text{ kg}$

8) $71.2 \text{ lb} = 324 \text{ hg}$

4) $120,000 \text{ cm}^3 = 1.2 \text{ hL}$

9) $190000 \text{ }\mu\text{s} = 0.000053 \text{ hours}$

5) $19.0 \text{ gal} = 71.8 \text{ L}$

10) $23.7 \text{ yd} = 2170 \text{ cm}$

Part 2: Answer the following questions:

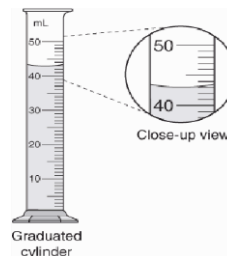
1) What is the purpose of a sand filter as a separation technique?

The sand filter is designed to remove large particle solids from the liquid

2) Use the following pictures to measure the amounts. Express answers as accurately as possible.



41.64 cm



43.0 mL

3) Describe a situation in which the following pieces of safety equipment are used:

a) fire extinguisher

When an object catches on fire

b) fire blanket

When a person catches their clothing on fire

c) safety shower

When a person gets a corrosive chemical on their shirt or pants

Part 3: For each number, tell how many sig figs and convert to the other notation

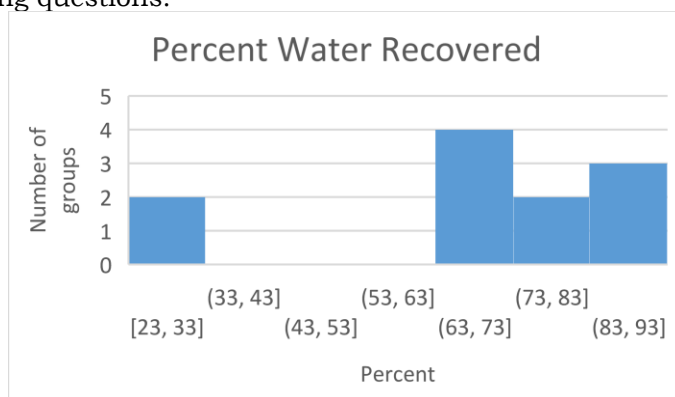
Regular notation	Sig Figs	Scientific Notation
0.000000049209	5	4.9209×10^{-8}
90.10	4	9.010×10^1
7000000000	1	7×10^9
0.000079100	5	7.9100×10^{-5}
1.157	4	1.157×10^0
23.540	5	2.3540×10^1
190000000	2	1.9×10^8
560.	3	5.60×10^2
0.0001045	4	1.045×10^{-4}
35602.0	6	3.56020×10^4

Part 4: Express the answer to each problem in the proper number of significant figures. Then express the answer in scientific notation.

- 1) $468 + 1203.89 = 1672$ Scientific Notation: 1.672×10^3
- 2) $19.67 \cdot 232 = 4560$ Scientific Notation: 4.56×10^3
- 3) $6.9 / 1102 = 0.0063$ Scientific Notation: 6.3×10^{-3}
- 4) $1123.54 - 151.9 = 971.6$ Scientific Notation: 9.716×10^2
- 5) $122.09 \cdot 64 = 7800$ Scientific Notation: 7.8×10^3
- 6) $137.67 + 1904.5 = 2042.2$ Scientific Notation: 2.0422×10^3
- 7) $1204 / 2.0 = 600$ Scientific Notation: 6.0×10^2

Part 5: Use the data listed below to answer the following questions.

Group Number	% Water Recovered
1	23.2
2	91.4
3	65.9
4	71.1
5	32.2
6	85.6
7	88.9
8	81.0
9	63.7
10	69.5
11	78.6



- 1) Construct a histogram for the data collected.
- 2) Determine the mean, median and range of the data compiled.
Mean: 68.3 %, median 71.1 %, 68.2%