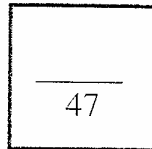


MEASUREMENTS --- WORK SHEET #1



NAME: _____

1. Convert the following. (9 marks)

a) 28 m/h to ___ km/s

b) 36 m/h to ___ cm/s

c) 672 miles/h to ___ hm/s

NOTE: 1 mile = 5280 feet
1 foot = 30 cm

2. State the number of significant digits in each of the measurements below. (8 marks)

a) 5.00 cm _____ e) 20.003 mg _____

b) 890 m _____ f) 202[~]00 L _____

c) 4.00×10^3 mm _____ d) 0.0010540 g _____

d) 790500 m _____ h) 0.006 s _____

3. Round off each of the following to two significant digits. (6 marks)

a) 2034[~]500 cm b) 10 055 m

c) 299886 km/s d) 19.34 g/cm³

e) 30.55 m/s f) 54.50 mm

4. Express the following in scientific notation rounded off to 3 significant digits. (6 marks)

a) 0.000007987 cm

b) 5555 dm

c) 123456789 km

d) 30304.0506 m

e) 2002000 dam

f) 0.00006925 s

5. Perform the following calculations and express the answer to the correct number of significant digits. (7 marks)

a) $37.3 \text{ m} + 0.13 \text{ m} - 23 \text{ cm} + 2.05 \text{ m}$

b) $7.6 \times 10^2 \text{ h} + 3.44 \times 10^5 \text{ s}$

c) $\frac{(4.0 \times 10^5)(6.0 \times 10^{-3})}{2.00 \times 10^{-4}}$

6. Using a triple beam balance with the smallest division being 0.001 g, the following measurements were made. (4 marks)

a) 356.01 g _____

b) 94.712 g _____

c) 6.9873 g _____

d) 100.0 g _____

State which are good measurements and which are poor measurements. **Give a reason for your choice.**

7. A ruler is marked out so that the smallest divisions are $1/1000$ of a meter. Each of the following measurements were made.
- i) 23.8 cm ii) 67.2 dm iii) 45 mm iv) 13.46 cm
- a) What is the precision of the ruler ? (1 mark)
- b) Which number has the greatest accuracy ? Why ? (2 marks)
8. A newspaper has reported that particle pollution in an industrial city amounts to 400 metric tons per unit area on each square kilometer. Determine the mass in kilograms that fall on each square meter. **Note: 1 metric ton = 1 Mg** (4 marks)