

## Worksheet – Section 3B

Write each of the following numbers in scientific notation.

1. 9736.23
2. 3578
3. 0.0003005
4. 126,547

Convert each of the following numbers from scientific to ordinary notation. To each nonzero digit, write its *place value*.

5.  $9 \times 10^7$
6.  $1.23 \times 10^8$
7.  $2.3 \times 10^{-3}$

8. Round the number 123,553.6734

- a) to 1 decimal place
- b) to 2 decimal places
- c) to the nearest hundredth
- d) to the nearest one
- e) to the nearest ten
- f) to the nearest hundred
- g) to the nearest thousand

9. Look up the Internet for the weight of a quarter (25 cent coin). Could an average person lift the weight of \$200 in quarters?

10. The volume of a single M&M candy is about  $0.60 \text{ cm}^3$ . How many M&M candies can be put in a jar of cylindrical shape with base diameter 10 cm and height 20 cm? *Write your answer in scientific notation. Round the mantissa to 2 decimal places as needed.*

11) Earth's mass is  $6.0 \times 10^{24}$  kilograms. Its volume is  $1.1 \times 10^{12}$  cubic kilometers. Find the density of Earth (mass/volume) in units of grams per cubic centimeter. *Write your answer in scientific notation. Round the mantissa to the nearest thousandth as needed.*

12) The universe is estimated to be about 14 billion years old. What is its age in seconds? *Write your answer in scientific notation. Round the mantissa to the nearest ten-thousandth as needed.*