**CHE1031: Recitation WS on scientific notation and significant figures[[1]](#footnote-1)**

1. Convert each of the following into scientific notation.

(a) 3427

(b) 0.00456

(c) 123,453

(d) 172

(e) 0.000984

(f) 0.502

(g) 3100.0 E2

(h) 0.0114 E4

(i) 107.2

(j) 0.0000455

2. Determine the number of significant figures in each of the following:

(a) 3427

(b) 0.00456

(c) 123,453

(d) 172

(e) 0.000984

(f) 0.502

(g) 3100.0 E2

(h) 0.0114 E4

(i) 107.2

(j) 0.0000455

3. Convert each into decimal form without scientific notation.

(a) 1.56 E4

(b) 0.56 E-2

(c) 3.69 E-2

(d) 736.9 E5

(e) 0.00259 E5

(f) 0.000459 E-1

(g) 13.69 E-2

(h) 6.9 E4

(i) 0.00259 E3

(j) 0.0209 E-3

4. Calculate the answers to each problem and express them in correct scientific notation.

(a) 4.53 E5 (b) 1913.0

+ 2.2 E6 - 4.6 E3

(c) 2.34 E24 (d) 2.130 E3

+ 1.92 E23 - 6.6 E2

(e) 9.10 E3 (f) 1113.0

+ 2.2 E6 - 14.6 E2

( g) 6.18 E-45 (h) 4.25 E-3

+ 4.72 E-44 - 1.6 E-2

5. Calculate the following and express the answer in correct scientific notation.

(a) 3.95 E2/1.5 E6

(b) (3.5 E2)(6.45 E10)

(c) 4.44 E7 /2.25 E5

(d) (4.50 E-12)(3.67 E-12)

(e) 1.05 E-26 / 4.2 E56

(f) (2.5 E9)(6.45 E4)

(g) 6.022 E23 / 3.011 E-56

(h) (6.88 E2)(3.45 E-10)

1. Adapted from the Arkansas State University Department of Chemistry and Physics, http://myweb.astate.edu/mdraganj/Sigfig1.html [↑](#footnote-ref-1)