Name: _____ ( ) Class: _____ Date: _____

Lesson Worksheet 6.1A(I)

Objective: To understand the meaning of significant figures and to round off a number as required.

In a number, **the most important digit (最重要的數字)** is **the left-most non-zero digit (最左的非零數字)**, which is called **the first (第一位) significant figure(有效數字)**. The **subsequent figures (隨後的數字)** to the right are called **second (第二位) significant figure(有效數字)**, third **(第三位) significant figure(有效數字)**, …etc.

1. For each of the following given numbers, **write down (寫出)** the first, the second and the third significant figures.(*The first two have been done for you as examples.*)

	Number	The first (第一位) significant figure	The second (第二位) significant figure	The third (第三位)significant figure
(a)	30 513	3	0	5
(b)	0.006 123	6	1	2
(c)	71 328			
(d)	4.022 4			
(e)	51.023			
(f)	0.002 853			
(g)	0.420 33			
(h)	20.625 5			

The leading '0's are **not** significant figures.

2. **Round off (四捨五入)** the following numbers to **2 significant figures (兩位有效數字)**.

(a) 13 229 = _____

(b) 4937 = _____

(c) 1.711 67 = _____

(d) 0.0922 98 = _____

(e) 8.023 12 = _____

(f) 71.329 24 = _____

Demonstration

Round off the following numbers to 2 significant figures.

(a) 93 124 **(b)** 0.025 433

(c) 5.038 61

Solution

(a) 93 124 = 93 000, *cor. to 2 sig. fig.*

(b) 0.025 433 = 0.025, *cor. to 2 sig. fig.*

(c) 5.038 61 = 5.0, *cor. to 2 sig. fig.*

Demonstration

Round off the following numbers to 3 significant figures.

(a) 174 984 **(b)** 0.091 85

(c) 6.398 71

Solution

(a) 174 984 = 175 000, *cor. to 3 sig. fig.*

(b) 0.091 85 = 0.0919, *cor. to 3 sig. fig.*

(c) 6.398 71 = 6.40, *cor. to 3 sig. fig.*

3. **Round off (四捨五入)** the following numbers to **3 significant figures (兩位有效數字)**.

(a) 4 215 = _____

(b) 53 675 = _____

(c) 0.734 8 = _____

(d) 0.012 98 = _____

(e) 32.965 1 = _____

(f) 1.998 8 = _____

Do not miss the '0' since it is the 3rd significant figure.

4. Round off 601 895 to

(a) 1 significant figure,

601 895 = _____

(b) 2 significant figures,

601 895 = _____

(c) 3 significant figures,

601 895 = _____

(d) 4 significant figures.

601 895 = _____

5. Round off 0.023 395 to

(a) 1 significant figure,

0.023 395 = _____

(b) 2 significant figures,

0.023 395 = _____

(c) 3 significant figures,

0.023 395 = _____

(d) 4 significant figures.

0.023 395 = _____