Lesson 3 Assignment

Weighted Means – Part B

Work slowly and carefully. If you are having difficulty, go back and review the appropriate *Lesson*.

For full marks, show all calculations, steps, and/or explain your answers.

Total marks: 10

(2) 6. The symbol for magnesium is Mg. A magnesium atom has three possible weights: 24 amu, 25 amu and 26 amu.

Mass of Magnesium Atom (amu)	Percent Occurrence (%)
24	79
25	10
26	11

Calculate the average weight of a magnesium atom. Answer to the nearest hundredth.

(2) 7. The school computer lab has five different types of 15.6" laptops. Calculate the mean mass for a 15.6" laptop using the data in the table.

Number of Computers	Mass (lb)
5	4.5
8	5.0
3	5.5
10	6.0
2	6.5

8. Josée and her classmates are raising money to pay for costumes and supplies for the school play. She sells candygrams for $\$1$, flowergrams for $\$2$, keychains for $\$5$, and t-shirts for $\$10$. All items have been donated by local businesses, so the profits go directly to fund the play.

   The students collected the following data from a total of 34 sales:
   $\$1, \$2, \$1, \$1, \$1, \$2, \$1, \$1, \$1, \$2, \$1, \$2, \$1, \$1, \$1,$
   $\$10, \$5, \$5, \$10, \$10, \$10, \$10, \$5, \$10, \$5, \$10, \$5, \$10, \$5, \$10, \$10, \$10, \$5, \$10$

(1) a. Why should the weighted mean formula be used instead of the mean formula to find the average price raised per item sold?

(2) b. Using the weighted mean formula, calculate the average price raised per item sold.

Selling Price ($)	Number of Items

9. Two classes of students studying French wrote the same exam. One class had 14 students with an average of 86%. The other class had 32 students with an average of 72%.

   The average mark was calculated as follows:

$$\begin{aligned}\overline{x} &= \frac{\text{sum of the values in the data set}}{\text{total number of values in the data set}} \\ &= \frac{86+72}{2} \\ &= \frac{158}{2} \\ &= 79\end{aligned}$$

(1) a. Identify the error in the calculation above.

(2) b. Find the mean.