

Example – 1: We weighed three oranges in a box of twenty oranges, and found that these were 335g, 320g and 371g.

- a) Calculate the average weight of these 3 oranges.
- b) Estimate the weight of 20 oranges in the box.

Solution:

a) Sum of quantities = $(335+320+371)$ g
= 1026 g

Number of quantities = 3

We know,

$$\begin{aligned}\text{Average} &= \frac{\text{Sum of quantities}}{\text{Number of quantities}} \\ &= \frac{1026}{3} \text{ g} \\ &= 342 \text{ g}\end{aligned}$$

Ans: 342 g.

b) Weight of 1 orange = 342 g

$$\begin{aligned}\therefore \text{“ 20 “} &= (342 \times 20) \text{ g} \\ &= 6840 \text{ g}\end{aligned}$$

Ans : 6840 g.

Example – 2: The weight of 6 guavas is 58 grams, 50 grams, 60 grams, 52 grams, 54 grams and 56 grams respectively.

a) What is the average weight of the guavas?

b) What is the average weight of 1st three guavas?

c) What is the difference between the average weights of the 1st three and the last three guavas?

Solution:

$$\begin{aligned} \text{a) Sum of quantities} &= (58+50+60+52+54+56) \text{ g} \\ &= 330 \text{ g} \end{aligned}$$

Number of quantities = 6

We know,

$$\begin{aligned} \text{Average} &= \frac{\text{Sum of quantities}}{\text{Number of quantities}} \\ &= \frac{330}{6} \text{ g} \\ &= 55 \text{ g} \end{aligned}$$

Ans: 55 g.

$$\begin{aligned} \text{b) Sum of quantities} &= (58+50+60) \text{ g} \\ &= 168 \text{ g} \end{aligned}$$

Number of quantities = 3

We know,

$$\begin{aligned} \text{Average} &= \frac{\text{Sum of quantities}}{\text{Number of quantities}} \\ &= \frac{168}{3} \text{ g} \end{aligned}$$

$$= 56 \text{ g}$$

Ans: 56 g.

c) From 'a' we get, Average of 1st three guavas = 56 g

Now,

$$\text{Sum of the weight of last three guavas} = (52+54+56) \text{ g}$$

$$= 162 \text{ g}$$

$$\text{Number of quantities} = 3$$

We know,

$$\text{Average} = \frac{\text{Sum of quantities}}{\text{Number of quantities}}$$

$$= \frac{162}{3} \text{ g}$$

$$= 54 \text{ g}$$

∴ The difference between the average weights of the 1st three guavas and the last three guavas = (56 - 54) g

$$= 2 \text{ g}$$

Ans : 2 gram.

Exercise

1. The average age of father and 3 sons is 17 years. Father's age is 38 years.
 - a. What is the sum of father and 3 sons age?
 - b. Find the sum of 3 sons' age.
 - c. If the average age of mother and 3 sons is 15 years, what is the age of mother?

2. The below table shows the heights of some students-

Name	Reza	Mina	Shiam	Uzzal	Taslima
Heights (cm)	142	144	137	146	141

- a. What is the average height of the students?
 - b. What is the average height of 2 highest height students?
 - c. What is the difference between the average of 2 highest and 2 lowest height students.
3. Out of 25 mangoes in a basket, the weights of 4 mangoes are 397 gram, 405 gram, 388 gram and 394 gram respectively.
- a. Write the formula of average?
 - b. What is the average weight of 4 mangoes?
 - c. What is the total weight of 25 mangoes based on the average of 4 mangoes?
4. The average age of father and his three sons is 21 years. The average age of mother and 3 sons is 18 years. The age of mother is 36 years.
- a. What is the average age of 3 sons?
 - b. What is the age of father?
 - c. What is the average age of father, mother and 3 sons?