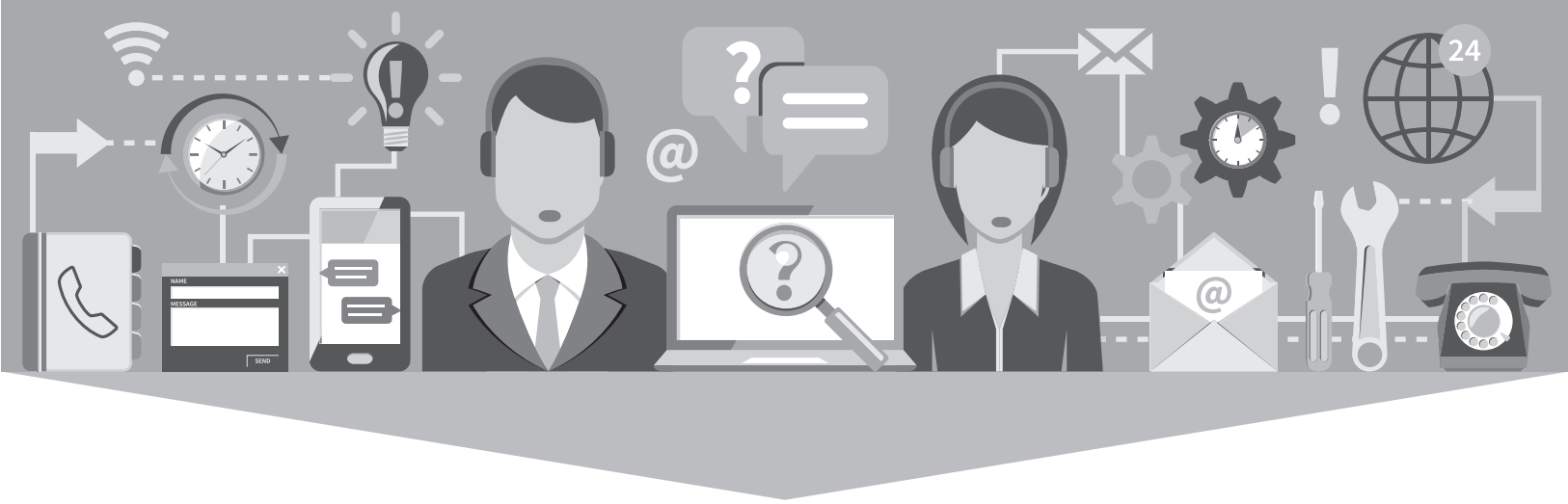

# CA FOUNDATION MATHEMATICS

**Question 1**

In the equation $4x+2y=3$, quartile deviation for $y$ is 3. Find the quartile deviation for $x$.

(a) 4.5 (b) 6 (c) 1.5 (d) None

**Question 2**

The mean and SD for $a$, $b$, and 2 are 3 and $\frac{2}{\sqrt{3}}$ respectively. The value of $ab$

(a) 5 (b) 6 (c) 11 (d) 3

**Question 3**



Which one is an absolute measure of dispersion?

(a) Range (b) Mean Deviation (c) Standard Deviation (d) All these measures

**Question 4**

Interval Quartile Range is ____of Quartile Deviation

(a) Half (b) Double (c) Triple (d) Equal

**Question 5**

The Standard Deviation of a set of 50 items is 10. Find the Standard Deviation if every item is increased by 5.

(a) 15 (b) 5 (c) 10 (d) None

**Question 6**

The standard deviation of 10, 16, 10, 16, 10, 10, 16, 16 is:

(a) 4 (b) 6 (c) 3 (d) 0

**Question 7**

If two samples of sizes 30 and 20 have means as 55 and 60 and variances as 16 and 25 respectively, then what would be the SD of the combined sample of size 50?

(a) 5.00 (b) 5.06 (c) 5.23 (d) 5.35



**Question 8**

If $x$ and $y$ are related by $y = 2x + 5$ and the $SD$ and $AM$ of $x$ are known to be 5 and 10 respectively, then the coefficient of variation is:

(a) 25 (b) 30 (c) 40 (d) 20

**Question 9**

If AM and coefficient of variation of $x$ are 10 and 40 respectively, what is the variance of $15 - 2x$?

(a) 8 (b) 64 (c) 74 (d) None

**Question 10**

If the SD of the first $n$ natural numbers is 2, then the value of $n$ must be:

(a) 2 (b) 7 (c) 6 (d) 5

**Question 11**

The mean and standard deviation of the salaries of two factories are given below:

| Factory | No. of Employees | Mean Salary | SD of Salary |
|---|---|---|---|
| A | 30 | ₹4,800 | ₹10 |
| B | 20 | ₹5,000 | ₹12 |

Examine which factory has more consistent structure so far as satisfying its employees are concerned.

(a) Factory A (b) Factory B (c) Both (d) None

**Question 12**

A student computes the AM and SD for a set of 100 observations as 50 and 5 respectively. Later on, she discovers that she has made a mistake in taking one observation as 60 instead of 50. What would be the correct mean and SD if the wrong observation is replaced by the correct observation?

(a) 49.90; 6.91 (b) 49.40; 4.91 (c) 49.90; 4.90 (d) None



**Question 13**

Compute the Coefficient of Mean Deviation about Median for the following distribution:

| Weight in kgs | 40 – 50 | 50 – 60 | 60 – 70 | 70 – 80 |
|---|---|---|---|---|
| No. of Persons | 8 | 12 | 20 | 10 |

(a) 8.10 (b) 22.96 (c) 9.10 (d) 12.96

**Question 14**

If two variables $x$ and $y$ are related by $2x + 3y - 7 = 0$ and the mean and mean deviation about mean of $x$ are 1 and 0.3 respectively, then the coefficient of mean deviation of $y$ about its mean is:

(a) –5 (b) 12 (c) 50 (d) 4

**Question 15**

If $R_x$ and $R_y$ denote ranges of $x$ and $y$ respectively where $x$ and $y$ are related by $3x + 2y + 10 = 0$, what would be the relation between $x$ and $y$?

(a) $R_x = R_y$ (b) $2R_x = 3R_y$ (c) $3R_x = 2R_y$ (d) $R_x = 2R_y$

**Question 16**

If $x$ and $y$ are related by $x - y - 10 = 0$ and mode of $x$ is known to be 23, then the mode of $y$ is:

(a) 20 (b) 13 (c) 3 (d) 23



**Question 17**

For a moderately skewed distribution of marks in statistics for a group of 200 students, the mean mark and median mark were found to be 55.60 and 52.40. What is the modal mark?

(a) 20 (b) 13 (c) 46 (d) 23

**Question 18**

Following are the wages of the labourers: ₹82, ₹56, ₹90, ₹50, ₹120, ₹75, ₹75, ₹80, ₹130, ₹65. Find $P_{82}$.

(a) 62.75 (b) 81.20 (c) 120.20 (d) None

**Question 19**

Following distribution relates to the distribution of monthly wages of 100 workers. Compute $D_7$.

| Profits in '000 ₹ | Less than 500 | 500 – 699 | 700 – 899 | 900 – 1099 | 1100 – 1499 | More than 1500 |
|---|---|---|---|---|---|---|
| No. of Firms | 5 | 23 | 29 | 27 | 10 | 6 |

(a) ₹1,032.83 (b) ₹1,048.96 (c) ₹995.80 (d) None