

## Case Study - Wage Increment in a Company

### Instructions

1. Answer the below question in the boxes provided.
2. Please submit the assignment through TalentLabs Learning System.

### Scenario

Within a company, the employees are fighting for a raise in salary with their boss Mr. Cook. The employees' main argument is this:

"Our workers need more money to cope with the rising cost of living. No one in our Union earns more than \$17,500 a month."

While Mr. Cook's main argument is this:

"The average salary in our company is \$19 000. It is already higher than what you are asking for. I don't see why we need to increase the salary now."

To resolve this argument, they sit down and look at the data together:

Position	Number of Employees	Monthly Salary	Part of the Employees Fighting for Pay Raise
President	1	150,000	N
Vice-president	2	90,000	N
Director	3	60,000	N
Branch Manager	3	45,000	N
Supervisor	3	30,000	N
Foreman	6	17,500	Y
Payroll Clerk	3	14,000	Y
Secretary	6	12,500	Y
Workman	30	12,000	Y
Sales Clerk	15	8,000	Y
General Clerk	6	7,500	Y

They found that the main issue is that the average salary is not really a good measure of how most of the employees are getting paid. The average salary is affected by the high salary of the executives and senior management. So they calculated the below:

Measurement of Central Tendency	Value
Mean/Average	\$19,000
Mode	\$12,000
Median	\$12,000

**Question 1 (3 points)**

Who would favor the use of mean, mode and median in the discussion of pay raise?

Measurement	Who would favor the use of the measurement?
Mean	Mr. Cook
Mode	The Employees
Median	The Employees

**Question 2 (6 points)**

If the salaries of the 21 clerks with the lowest salaries are raised to \$12,000, what is the new mean, mode and median?

(You should include the calculation steps and method in the answer, instead of just the final answer)

Measurement	Calculation
The new mean	<p><b>Total current salary</b> = \$1,482,000</p> <p>Increase for 21 clerks:</p> <ul style="list-style-type: none"><li>• (New Salary - Old Salary) × Number of Clerks</li><li>• (12,000 - 7,500) × 6 (General Clerk) = \$27,000</li><li>• (12,000 - 8,000) × 15 (Sales Clerk) = \$60,000</li></ul> <p><b>New total salary</b> = \$1,482,000 + \$27,000 + \$60,000 = \$1,569,000</p> <p>Total employees = 68</p> <p><b>Mean</b> = \$1,569,000 / 68 = \$23,073.53</p>
The new mode	<p>The mode was \$12,000 before, and now all clerks with lower salaries have been raised to \$12,000, so the mode <b>remains \$12,000</b>.</p>

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The new median	The median remains \$12,000.
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**Question 3 (2 points)**

The president decided to make the numbers look nicer by increasing his own salary only. What should be his new salary if he wants to increase the average salary by \$2000?

(You should include the calculation steps and method in the answer, instead of just the final answer)

Current total salary:  $19,000 \times 68 = 1,292,000$

New mean:  $19,000 + 2,000 = 21,000$

New total salary:  $21,000 \times 68 = 1,428,000$

Total salary of other employees = Current total salary – Current salary of president

Total salary of other employees =  $1,292,000 - 150,000 = 1,142,000$

New salary of president = New total salary – Total salary of other employees

New salary of president =  $1,428,000 - 1,142,000 = 286,000$

The president's new salary should be **\$286,000** to increase the average salary by \$2,000.

**Question 4 (6 points)**

The president has come up with another plan, which is to address the ask of the biggest group only - the workmen. He decided to raise their pay to 13,000. What would be the new mean, mode and median?

(You should include the calculation steps and method in the answer, instead of just the final answer)

Measurement	Calculation
The new mean	<p>Increase in salary:</p> <ul style="list-style-type: none"> <li>(New Salary - Old Salary) <math>\times</math> Number of Workmen</li> <li><math>(13,000 - 12,000) \times 30 = \\$30,000</math></li> </ul> <p>New total salary = <math>\\$1,482,000 + \\$30,000 = \\$1,512,000</math></p> <p><b>New mean = <math>\\$1,512,000 / 68 = \\$22,235.29</math></b></p>
The new mode	After the increase, 30 workmen earn \$13,000, making \$13,000 the new mode.

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The new median	Since workmen earn \$13,000 and hold the 34th and 35th positions, the median becomes \$13,000.
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## Question 5 (2 points)

If you are the leader of the employees, what are the statistics that you would suggest Mr. Cook to look into before making a decision? Why?

1. **Median:** The median reflects the midpoint of the salary distribution, showing what a typical employee earns, making it a better measure of central tendency than the mean, which can be skewed by high executive salaries.
2. **Mode:** The mode represents the most common salary, which can highlight that the majority of employees are earning far below the mean, indicating a need for a more equitable distribution of wages.