The Big V dealership sells new cars and has 6 salespeople. Below is a table indicating the salesperson with the amount of sales for the past month

|  |  |
| --- | --- |
| ***Salesperson*** | ***Amount Sold last month*** |
| **Vicky** | 240000 |
| **Vanessa** | 190000 |
| **Victor** | 100000 |
| **Vance** | 150000 |
| **Venus** | 125000 |
| **Val** | 250000 |

Salespeople are paid on a salary and commission basis of $12000 per year and 1% of sales.

*Discussion*: Does this make sense. Can you give any other examples of this?

*Excel*: Calculate their paychecks for the month. This is the actual model of the dealership. We will have to make note of this on this spreadsheet and we’ll discuss the options to this!

While calculating, determine totals and averages of sales for the month, total commissions and total pay. We’ll do this first by the older method sum.

When done, can you give the executives the average, max and min for each of the columns. Think about how you would determine who is the one with the max or min?

Let’s do a graph to show a visual presentation of this. What type of graph would you think would be appropriate.

Let’s look at presentation. The sales manager probably has a different outlook than the accountant, would you not agree? How can we tailor this spreadsheet to each party.

At the moment, the display is in alphabetic order. What other orders are there (consider all columns). How do we order by sales amount, for instance?

The agency is thinking about several changes. Let’s use our spreadsheet to show the effect on other sheets. So, copy this data to another sheet and title this sheet, **actual salary expenses.**

**Note: This is an example of what is called mathematical modeling: putting to mathematics what is occurring in real life or could occur.**

# Modify the above for some further analysis

The company is considering some changes to further encourage sales. One is to charge the salespeople with expenses. To offset this, a slight increase in commission percent will be effected. The company is considering a commission increase to 1.10% while charging $250 a month.

*Discussion*: Do you agree with the added expense cost to the employees.

*Excel*: Copy your spreadsheet into another sheet. The second sheet is where we do the changes. Change this spreadsheet accordingly to represent these changes. What would be the difference between this plan and the above. How would you see it? Could you automate this so that you see the differences immediately? The answer to this is yes through Excel’s ability to 3D compute.

Upon further review, the company proposes to model the following

# A Further Extension

To encourage the salespeople, the company has decided to offer an additional .5% commission on sales above $200,000. Therefore, a 1.10% commission will exist for sales between 0 and 199,999.99 and a 1.60% commission will exist for sales above $200,000.

*Discussion*. This is the most general sales commission model. What is gained by the company? By the employee? Where employees will suffer from it?

*Excel*: Set this up through additional columns creating buckets that employee’s sales are put in. Calculate the commission off the bucket by multiplying the correct percentage by the specific bucket.

# A Final Extension?

The company has decided to offer additional incentives to the staff. A bonus of $300 will be given to those salespeople whose sales for the month exceeds $175,000. Further, an extra $500 will be split between the leaders in sales for the month.

*Discussion*. What do you think about these incentives? Will they work?

*Excel*: Both parts of this are tricky. The first part can be handled by the If statement. Notice how the If statement allows the user to modify the spreadsheet based on existing data. The second part involves a variety of analysis.

A Final; Final (If time allows)

Show total salary in a descending sort order. Format the table effectively and create a bar(column) graph showing the components.

*Discussion*. In your experience do graphs work for presentation? For whom should you set graphs for and who should you not?

*Excel:* There are several ways to set up the system for graphing. Your instructor will show you one way and explain several others. You should try these on your own.

*In Addition*: Can we automate Month name: last month was February and the system should know this. Could we access this?

General discussion of this problem. Having done this in Excel, would you see something like this – how this problem supplies data - in real life? Why or Why not?