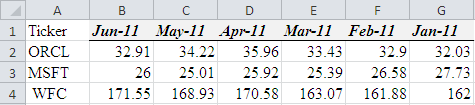
# SPREADSHEET BASICS

**Instructor’s Manual Problem Set**

1. The following table contains closing monthly stock prices of Oracle Corporation (ORCL), Microsoft Corporation (MSFT), and International Business Machines Corporation (IBM) for the first semester of 2011.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Ticker | Jun | May | Apr | Mar | Feb | Jan |
| ORCL | 32.91 | 34.22 | 35.96 | 33.43 | 32.90 | 32.03 |
| MSFT | 26.00 | 25.01 | 25.92 | 25.39 | 26.58 | 27.73 |
| WFC | 171.55 | 168.93 | 170.58 | 163.07 | 161.88 | 162.00 |

a. Enter the data, as shown, into a worksheet and format the table as shown.



b. Create a formula to calculate the monthly rate of return during the first semester of 2011 and for each company. Format the results as percentages with two decimal places.

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| **Worksheet:** |
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| **Formulas:** |
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c. Calculate the total return for the entire holding period, the compound average monthly rate of return, the average monthly rate of return using the **AVERAGE** function, and the average monthly rate of return using the **GEOMEAN** function.

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| **Worksheet:** |
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| **Formulas:** |
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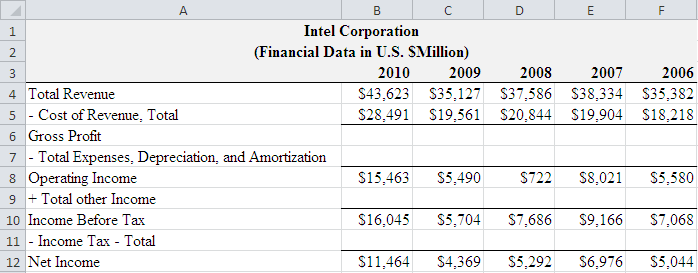
d. Create a line chart showing the stock prices from January to June 2011 for these companies. Make sure to title the chart and label the axes. Also present the data from January to June and use Times New Roman for the title, labels, and numbers. Select a different dash type for each line representing each company.

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2. The following table contains financial information of Intel Corporation. (Financial data in U.S. $ Millions)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | 2010 | 2009 | 2008 | 2007 | 2006 |
| Total Revenue | 43623 | 35127 | 37586 | 38334 | 35382 |
| - Cost of Revenue, Total | 28491 | 19561 | 20844 | 19904 | 18218 |
| Gross Profit | ? | ? | ? | ? | ? |
| - Total Expenses, Depreciation, and Amortization | ? | ? | ? | ? | ? |
| Operating Income | 15463 | 5490 | 722 | 8021 | 5580 |
| + Total other Income | ? | ? | ? | ? | ? |
| Income Before Tax | 16045 | 5704 | 7686 | 9166 | 7068 |
| - Income Tax - Total | ? | ? | ? | ? | ? |
| Net Income | 11464 | 4369 | 5292 | 6976 | 5044 |

a. Enter the data, as shown, into a worksheet and format the table as shown.



b. Create the required formulas to calculate the missing variables in the table and format the results in $ with no decimal places.

c. Calculate the average tax rate, the gross margin, and the profit margin for 2010-2006. Format the results as percentages with two decimal places.

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| **Worksheet:** |
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| **Formulas:** |
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d. Create a line chart showing the gross profit margin and the net profit margin for 2010-2006. Make sure to title the chart and label the axes. Also present the data from 2010 to 2006 and use Times New Roman for the title, labels, and numbers. Select a different dash type for each line representing each margin.

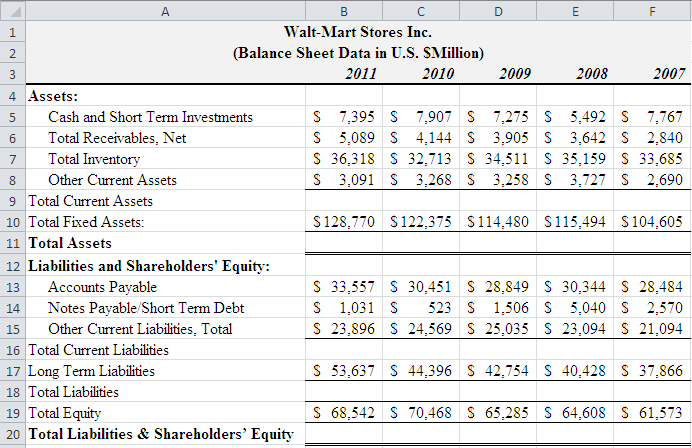
e. Express each item in the Income Statement as a percentage of total revenue.

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| **Worksheet:** |
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| **Formulas:** |
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3. The following table contains financial information of Walt-Mart Stores Inc. (Financial data in U.S. $ Million)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | 2011 | 2010 | 2009 | 2008 | 2007 |
| Assets: |  |  |  |  |  |
| Cash and Short Term Investments | 7395 | 7907 | 7275 | 5492 | 7767 |
| Total Receivables, Net | 5089 | 4144 | 3905 | 3642 | 2840 |
| Total Inventory | 36318 | 32713 | 34511 | 35159 | 33685 |
| Other Current Assets | 3091 | 3268 | 3258 | 3727 | 2690 |
| Total Current Assets | ? | ? | ? | ? | ? |
| Total Fixed Assets: | 128770 | 122375 | 114480 | 115494 | 104605 |
| Total Assets | ? | ? | ? | ? | ? |
| Liabilities and Shareholders' Equity: |  |  |  |  |  |
| Accounts Payable | 33557 | 30451 | 28849 | 30344 | 28484 |
| Notes Payable/Short Term Debt | 1031 | 523 | 1506 | 5040 | 2570 |
| Other Current Liabilities, Total | 23896 | 24569 | 25035 | 23094 | 21094 |
| Total Current Liabilities | ? | ? | ? | ? | ? |
| Long Term Liabilities | 53637 | 44396 | 42754 | 40428 | 37866 |
| Total Liabilities | ? | ? | ? | ? | ? |
| Total Equity | 68542 | 70468 | 65285 | 64608 | 61573 |
| Total Liabilities & Shareholders’ Equity | ? | ? | ? | ? | ? |

a. Enter the data into a worksheet and format the table as shown. Format the cells as accounting numbers with no decimal places.



b. Create a formula to calculate the missing values in the table denoted by a question mark using the SUM function. Also, find capital structure of Walt-Mart Stores Inc. using the following ratios for 2007-2011: total debt to total assets, total debt to total equity, and total assets to total equity. Format the results as percentages with two decimal places the first ratio, and as numbers with two decimal values the other two.

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| **Worksheet:** |
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| **Formulas:** |
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d. Create a pie chart showing the proportion of debt and equity that Walt-Mart Stores Inc. used to finance its assets by the end of 2011. Make sure to title the chart and add data labels.

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| **Worksheet:** | **Formulas:** |
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e. Express each item in the Balance Sheet as a percentage of total assets. Create a line chart showing current assets, fixed assets, current liabilities, and long term liabilities for 2007-2011. Make sure to title the chart and label the axes. Also present the data from 2007 to 2011 and use Times New Roman for the title, labels, and numbers. Select a different dash type for each line representing each balance sheet item.

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| **Worksheet:** |
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| **Formulas:** |
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4. Using the data from the previous problem, calculate the growth rate of each item in the financial information of Walt-Mart Stores Inc. for each year from 2007 to 2011.

a. Calculate the compound annual growth rate during 2007-2011 and the average annual growth rate during the same period using the **AVERAGE** function of each item using the results you calculated in part a.

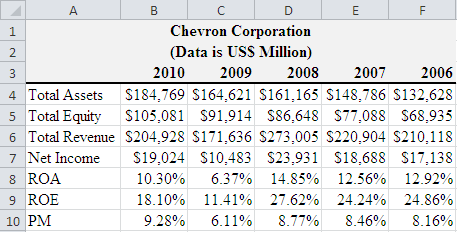
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| **Worksheet:** |
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| **Formulas:** |
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b. Calculate the ratio of each year’s data to the previous year for each of the above Walt-Mart’s items. Also, calculate the average annual growth rate using the **GEOMEAN** and the standard deviation using the **STDEV.S** function for each item.

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| **Worksheet:** |
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| **Formulas:** |
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**Internet Exercise**

5. Obtain the financial statements for Chevron (CVX) from MSN Money at <http://moneycentral.msn.com/investor/home.asp> Plot the return on assets (ROA), return on equity (ROE) and the profit margin (PM) for the last five years.



**Test Bank**

|  |  |
| --- | --- |
| 1. What is the result of the math operation in cell A4? |  |
| a. -0.88 |
| b. 7.86 |
| c. 12.34 |
| d. 16.43 |
| e. 20.85 |

*Solution: d.*

|  |  |
| --- | --- |
| 2. What is the result of the math operation in cell A4? |  |
| a. 1.00 |
| b. 0.111 |
| c. 19.00 |
| d. -13.00 |
| e. -41.00 |

*Solution: a.*

|  |  |
| --- | --- |
| 3. What is the formula on cell B5 that will allow you to calculate Total Current Assets/Total Current Liabilities? |  |
| a. =SUM(B1:B3)/B4 |
| b. =(B1+B2+B3)/B3 |
| c. =B1+B2+B3/B4 |
| d. =SUM(B1:B3)/3 |
| e. =SUM(B1:B4)/B4 |

*Solution: a.*

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| --- | --- |
| 4. What is the formula on cell B4 that will allow you to calculate the total stock return from 2007 to 2011? |  |
| a. =A3-E3/E3 |
| b. =A3-(E3/E3) |
| c. =A3/E3-E3/A3 |
| d. =(A3-E3)/E3 |
| e. =(A3/E3-E3)/A3 |

*Solution: d.*

|  |  |
| --- | --- |
| 5. What is the formula on cell B4 that will allow you to calculate the compound annual stock return from 2007 to 2011? |  |
| a. =(A3/E3^1/4)-1 |
| b. =A3/E3^1/4-1 |
| c. =(A3/E3)^(1/4)-1 |
| d. =(A3/(E3^1/4))-1 |
| e. =(A3/E3)^(1/4)+1 |

*Solution: c.*

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| 6. What is the formula on cell B6 that will allow you to calculate the average annual stock return using the GEOMEAN function from 2007 to 2011? |  |
| a. =GEOMEAN(B5:E5) |
| b. =GEOMEAN(B5:E5)-1 |
| c. =GEOMEAN(B4:E4) |
| d. =GEOMEAN(B4:E4)-1 |
| e. =GEOMEAN(B4:E4)+1 |

*Solution: b.*

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| 7. What is the formula on cell B5 that will allow you to calculate the arithmetic mean stock return from 2007 to 2011? |  |
| a. =SUM(B4:E4)/4 |
| b. =(B4+C4+D4+E4)/4 |
| c. =AVERAGE(B4:E4) |
| d. None of the above |
| e. a, b, and c |

*Solution: e.*

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| --- | --- |
| 8. What solution would you get in cell B4? |  |
| a. 17.541 |
| b. -4782.9 |
| c. 2582.5 |
| d. -2163.6 |
| e. -5385.3 |

*Solution: d.*

|  |  |
| --- | --- |
| 9. What solution would you get in cell B4? |  |
| a. 3.333333 |
| b. -1462.96 |
| c. 123.703 |
| d. -2453.85 |
| e. 7606629.6 |

*Solution: d.*

|  |  |
| --- | --- |
| 10. What is the result of the math operation in cell B4? |  |
| a. 12.1560 |
| b. 11.66667 |
| c. 768393.53 |
| d. 35.85792 |
| e. 18404086.4 |

*Solution: b.*

11. The \_\_\_\_\_ in Excel 2010 takes the place of the Office button used in Excel 2007, and it allows you to open, save, print, or create a new file

a. Ribbon

b. File tab

c. Home Tab

d. Status Bar

e. Scroll Bars

*Answer: b.*

12. Tiny charts that are intended to be presented as a “word” in a line of text or next to data in a table are called:

a. Embedded charts

b. Column charts

c. Scatter charts

d. Sparkline charts

e. Pie charts

*Answer: d.*

13. All of the following are rules that are common to good spreadsheet design, EXCEPT:

a. Create an area specifically for the variables (inputs) in the model

b. Enter a number directly into a formula, especially when you know it will change

c. Your model should be well-organized and nicely formatted

d. If your formulas are long or use complex logic, make sure to document them

e. Always test your model thoroughly before declaring it finished.

*Answer: b.*

14. Which of the following constitutes an absolute reference to cell B6:

a. $B6

b. B$6

c. $B$6

d. #B#6

e B6$

*Answer: c.*

15. The \_\_\_\_\_\_\_ must precede all formulas in Excel, otherwise it will treat the formula as text and will not calculate the result

a. less than sign

b. more than sign

c. dollar sign

d. & sign

e. equals sign

*Answer: e.*