

Excel Lab – Key Assignment, Critical Thinking and Communications Lab

More about this Key Assessment: All courses at PAC require a 'Key Assessment' that addresses a core objective such as 'Teamwork', 'Critical Thinking', or 'Communication'. The big picture is that the Texas Higher Education Coordinating Board [THECB] requires the College to assess how well it is doing its job. One of the ways the College does this is to review Key Assessments from a random sampling of students. This assignment addresses the core objectives of 'Critical Thinking' and 'Communication'. From a student's prospective the fact that this is a 'Key Assessment' will have no impact. You should treat it as any other assignment – just follow the instructions and do the best you can.

If your assignment is chosen for evaluation of communication – the probability is very low that it will be – an evaluator will be looking at your (1) 'Content and Purpose', {in this case how well you presented your solution – did it provide the information required? }, (2) 'Organization', {did you use separate tabs, spacing, etc.?} and (3) 'Tools', {in this case the tool was 'visual' -- how effective were your charts?}.

If your assignment is chosen for evaluation of Critical Thinking - the probability is very low that it will be - an evaluator will be looking at your (1) 'Methods', {in this case, how well you selected your formulas - were they appropriate for this worksheet?}, (2) 'Conclusions', {did you find the correct answers using the resources found in Excel?} and (3) 'Creativity', {in this case, how did your worksheets appeal to the users? Did your colors and lines etc., enhance the readability of the worksheets or hinder the clearness?}.

Scenario: You are the owner of a small business who wants to project potential profits for the next four years and know that Excel is the perfect tool for the task. Here is the data you have for this past fiscal year:

Gross sales were \$525,000

Business expenses were:

Salaries \$205,000

Building costs: \$45,250

Insurance cost: \$28,000

Supply cost: 11% of gross sales

All other: \$67,000

Your tax rate was 18% of income before tax [that is, the tax was paid on gross sales less expense]

Additionally, you have a profit-sharing agreement with your employees that states you will share \$10,000 with them whenever your profit exceeds \$110,000 and \$5,000 if it does not.

A general description of your task:

1. Create a spreadsheet [Worksheet1] that shows the net profit [gross income less tax and any profit sharing] for this year and the profit projections for the next 4 years if sales increase 5% per year, salaries increase 5.5%, building costs increase at 2%, insurance costs increase at 3%, supply costs remain at 11% and all other costs increase 3.5%. Show the sum of the total profit you expect over the next 4 years.

2. Using the same spreadsheet [Worksheet2] project what your profits may be if the sales increase is 6% not 5% and salaries increase 4% instead of 5.5%.
3. Using the initial assumptions [5% sales and salary increase of 5.5%] determine what increase in sales would be required to have a cumulative profit over the next 4 years of \$450,000 [Use Worksheet3 for this calculation].
4. Create a pie chart that shows the ratio of expenses for the last of the 4 projected years and create a line chart that plots gross sales and net profit for the current and projected years. Place these Charts on Worksheet4.

Specific details and requirements:

- Rename Worksheet1 with your name, Worksheet2 to What-IF, Worksheet3 to Goal Seek, Worksheet4 to Charts and color the tabs.
- Use this current calendar year as your starting year
- Format the worksheet with colors, \$ sign's etc. to give it a professional look
- Ensure the current year and following 4 years appear as labels
- Have the \$10,000 bonus cell show with a red background and the \$5,000 bonus show a green background. {Note: this shading needs to change if the bonus value changes}
- Use appropriate titles and legends for the Line and Pie charts. For the Pie Chart 'explode' the slice for supplies and have the slices show just percentages.

Submission Requirements: Upload the Excel file. Name the file Key Assessment-Your last name.
(i.e. Key Assessment-Ross)

Grading Rubric:

- Your Name sheet with correct formulas and format: 50 points
- What-IF sheet with correct formulas and format: 10 points
- Goal-Seek sheet with correct formulas and format: 10 points
- Charts sheet with correct charts and format: 20 points
- Overall format (See the Specific details and requirements): 10 points.