**Part 1 – Depreciation Schedules (complete 2 steps):**

An Oregon farmer is considering an equipment purchase. She has the option of buying several different types of equipment and has narrowed her choice down to 2 machines. The 2 machines are as follows:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Machine A | Machine B |  |
| Asset Price | 360,000 | 180,000 |  |
| Useful life | 15 | 10 |  |
| Salvage value | 60,000 | 30,000 |  |

**Step 1:**

Complete the following exercise in the worksheet titled “Deprc Assignment”:

For the two machines calculate the depreciation schedules and the asset book values using both the straight-line depreciation and double declining depreciation methods.

Then, input the correct balance sheet info for **year 1 and year 5** for the two machines.

**Step 2:**

In a Word Document, explain the difference between the two methods of calculating depreciation. Specifically explain the balance sheet implications of these two methods.

Note:

A Depreciation Example (if needed; skip if not needed): If you need a refresher on creating depreciation schedules, this example will help you to review and to understand the difference between **straight-line depreciation and double-declining depreciation**. This example walks you through the calculation process in Excel for Machine X and allows you to practice the calculations on Machine Y.

1. Open the workbook titled AEC465\_In-Class Assignment\_1 Fall17.
2. Find the worksheet “Deprc Examples” to complete the example problem.
3. Complete both questions 1 & 2 for Machine Y (complete the green shaded boxes)

**Part 2 - Balance Sheets and Asset Valuations (complete 3 steps):**

When analyzing the balance sheet it is important to understand how different asset valuation approaches effect liquidity and solvency measures. In the following exercise you will be asked to consider these differences when using the **book value and market value** approaches.

The balance sheet located in the worksheet titled “Balance Sheet Assignment” outlines the current state of ABC Farm. The owner of ABC Farm is curious whether he should use book value or market value on his balance sheet.

**Step 1:** Your task, using the following information, is to set up his balance sheet so that it has two columns for Assets, Liabilities and Equity – valuation by book value and market value; also, be sure to include a deferred tax liability associated with the increases in the value of the farmland.

ABC Farm is a 300-acre grain and livestock operation. They have just completed harvest and are currently storing their grain. Use the following information to complete the balance sheet with **book values and market values** for the farm’s inventories, equipment, and property.

Inventories:

ABC farm just completed harvest of 150 acres of grain. Harvest yielded 100 bu/acre and total costs of production were $300/acre. The farm has not incurred any storage costs yet. Due to a smaller than average crop, market prices for the grain have risen to $4.00/bu.

ABC Farm also has a very small heard of livestock that they raise on their property. Currently their marketable inventory totals 1500 cwt. The market is currently paying $200/cwt. However, with rising feed costs, total cost of production of the livestock is estimated to be $150/cwt.

Property:

ABC Farm purchased their 300 acres several years ago with a loan from the bank. Land was purchased for $5,000/acre. Area land values have increased since then, and now land in the area has been selling for around $10,000/acre. ABC Farm thinks this trend will continue and estimates the market value of its land at $10,000/acre.

Equipment:

ABC Farm owns two tractors, but rents its implements for field work. Its tractors are as follows:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Tractor 1 |  | Tractor 2 |
| Asset Price | 30,000 |  | 50,000 |
| Useful life | 10 |  | 15 |
| Current Age | 5 |  | 2 |
| Salvage value | 0 |  | 5,000 |

Use straight-line depreciation to calculate the current book value of the machines. ABC Farm keeps its tractors in good shape. It estimates that their market value is 10% greater than their book value.

Taxes:

ABC Farm’s average income tax rate is 25%, while the capital gains tax is 15%.

**Step 2 - Ratio Analysis:**

Calculate the current ratio, debt to asset ratio, debt to equity ratio and equity to asset ratio for both the book value and market value approaches. Report these ratio’s in your spreadsheet.

**Step 3 - Interpretation/implications of Analysis**

In a Word Document, explain what each of these ratios mean. What are the implications of using book value vs. market value on the balance sheet?