



CFM

Sample Questions



Chartered Financial Modeler (CFM)

Sample Questions

The following pages contain two sample cases for the CFM exam. This exam will test advanced modeling topics. While these cases are indicative of the type of material that may be on the exam, the exam questions may include additional complexity.

Each case will contain a brief paragraph explaining the situation. Candidates are expected to model the relevant schedules in a dynamic and automated manner, otherwise they may run out of time. As with any modeling exercise, formatting and presentation are important.

The cases on the exam may require answers in multiple parts.

1. Tiered Equity Returns

The first level of the FMI certification program, the Advanced Financial Modeler (AFM) exam, tested a candidate's ability to create an integrated, three-statement financial model of a company in a controlled environment with no resources, in under four hours.

Acme Inc. is a manufacturer of industrial parts used in the airline industry. The company is projected to generate Net Income before dividends according to the following table:

	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>
Net Income before Dividends	190,167	304,267	456,401	684,602	376,531

Common Equity in the Company is divided into two tranches, Class A Common Shares and Class B Common Shares. Dividends paid to Class B Common shareholders are targeted to be 5% of Net Income available to the class.

As of December 31, 2017, there were 650,000 Class A Common shares outstanding. In 2017, each Class A share paid an annual dividend of \$0.05 per share. The Company has committed to increasing the dividend on Class A shares by 15% for each of the next five years.

In 2012, the Company issued \$1,897,367 in Preferred Shares with an annual yield of 12%. Additional terms of the Preferred Shares are:

1. In the event there are insufficient funds available to pay dividends to holders of Preferred shares, such dividends that should have been paid will accumulate or accrue without interest
2. Such accrued funds will be paid in priority with any future available funds
3. In the event that there are any unpaid preferred share dividends, no dividends will be paid to any class of Common Shares

As of December 31, 2017, all Preferred Share dividends had been fully paid.

Tasks:

1. Build the schedule(s) required to determine the total amount of dividends paid by the Company.
2. The Company is evaluating the ability to issue a new \$1.0 million tranche of Preferred Shares with the following terms:
 - a. The new shares will be junior to the existing Preferred Shares
 - b. Unpaid dividends will not accrue
 - c. They will pay an annual dividend of \$115 per \$1,000 in face value
 - d. The new tranche could be issued on January 1 in any year between 2020 and 2022, inclusive
3. Build the schedule(s) required to determine the total amount of dividends paid assuming the Company issues preferred shares in 2020, 2021, or 2022.

2. Fully Depreciating Assets

Galway Inc. is a manufacturer of industrial parts used in the automotive industry. The company is planning two aggressive capital spending projects over the next few years. Spending is expected to occur evenly throughout the year.

As of the most recent fiscal year end, the Company had a Net PP&E balance associated with buildings of \$2,543 million. These assets had an estimated remaining useful life of 25 years. In fiscal 2017, the Company spent \$123.5 million on building-related improvements. Annual spending under the program is expected to grow by 7.5% per year over the next 10 years. Assets purchased under the program have an estimated useful life of 7 years and depreciation is to be determined using the double declining balance method (for this method, assume the annual depreciation rate is double what it would be using the straight line method).

The Company is also planning to start an IT department. Assets purchased are expected to have a 5-year useful life and will be depreciated using the straight-line method. The base plan involves spending \$50 million in each of the next 10 years. The Company can also pursue an additional expansion based on the following schedule:

Year	Amount
Year 1	\$5.0 million
Year 2	\$15.0 million
Year 3	\$7.5 million
Year 4	\$20.2 million
Year 5	\$60.7 million
Year 6	\$1.0 million
Year 7	\$0.3 million
Year 8	\$0.0 million
Year 9	\$0.0 million
Year 10	\$0.5 million

Tasks:

1. Create a fully automated schedule to determine annual depreciation expense for each of the next 10 years assuming the IT additional expansion begins in the next fiscal year.
2. Determine the annual depreciation amount if the IT spending plan is delayed 1, 3, or 5 years.
3. Determine the annual depreciation amount if, on December 31, 2020, the company sells \$500 million of building assets acquired prior to 2018. Assume that the assets are sold at their carrying value.
4. Calculate the Ending Net PP&E balance for each of the above scenarios (assuming they occur independently).