

Homework — Finance, the Firm, and the Statements

Optional. Worked solutions are on the website

Practice problems

1.1

1. List five items you would expect to find on the asset side of a company that runs private schools, and for each, write the reason the company bought it — that is, what it is supposed to produce.
2. A company invests GH¢12 million in a new production line. The line is expected to generate GH¢1.9 million per year of operating profit after tax indefinitely. The providers of the GH¢12 million require a 16% return. Compute the annual value created or destroyed, and state your recommendation.
3. Using the same project, find the annual operating profit after tax at which the project exactly breaks even in value terms. By what percentage would the GH¢1.9 million estimate have to be wrong before the recommendation flips?

1.2

1. For each transaction, state which statements it touches, which section, and whether cash moves: (a) a customer pays a GH¢200,000 invoice from two months ago; (b) the company buys GH¢350,000 of stock on 30-day credit; (c) the company repays GH¢1.5 million of loan principal; (d) the company issues new shares to an investor for GH¢4 million; (e) the company writes off GH¢80,000 of a customer balance it will never collect.
2. A company reports GH¢6 million of revenue and GH¢900,000 of net income for the year, and holds GH¢1.4 million of receivables at year end. A colleague computes "receivables as a share of revenue" as 23%. Is that calculation comparing a stock with a flow? Is it still useful? Explain.
3. A business owner says: "I bought a GH¢900,000 delivery van this year, so my profit is GH¢900,000 lower." Explain what is wrong with this, and describe what actually happens to the income statement in the year of purchase and the years after.

1.3

1. A business reports revenue of GH¢14.0 million, cost of goods sold of GH¢8.4 million, operating expenses of GH¢3.2 million, depreciation of GH¢600,000, interest of GH¢500,000, and tax at 25%. write each of the three margins as a plain-language sentence in the style used in the video.
2. Two companies both report a 4% net margin. Company A has a 40% gross margin; Company B has a 12% gross margin. Describe, in three or four sentences, how these two businesses probably differ, and name one risk that is greater for each.
3. Adom's operating income is GH¢4.0 million and its interest expense is GH¢1.2 million. Suppose interest rises to GH¢2.0 million next year with operating income unchanged. Recompute pretax

income, tax, net income, and net margin. By what percentage does net income fall, and by what percentage did operating income fall? Explain the difference between the two answers.

1.4

1. A company's net property and equipment went from GH¢24 million to GH¢29 million during the year, and depreciation for the year was GH¢4 million. Compute capital expenditure. Show your reasoning.
2. Opening equity was GH¢15.0 million, net income was GH¢2.4 million, and closing equity was GH¢16.1 million. No shares were issued. How much was paid in dividends?
3. A company's cash-flow statement shows operating cash flow of GH¢9 million, investing cash flow of negative GH¢14 million, and financing cash flow of positive GH¢6 million. Cash rose from GH¢2 million to GH¢3 million. Does the statement reconcile? If not, what is the size of the error?

1.5

1. Name the four timing patterns that separate profit from cash, and give one example of each from a business you know or can imagine.
2. A company has revenue of GH¢24 million and receivables of GH¢4.5 million. Compute its collection period in days. If it reduced the collection period to 45 days at the same revenue, how much cash would it release?
3. Using Adom's Year 3 figures, suppose receivables had risen to GH¢16 million instead of GH¢13.2 million, with everything else unchanged. Recompute operating cash flow, and compute the Year 3 collection period implied by GH¢16 million of receivables.
4. Adom's payables rose by GH¢1.9 million during Year 3, which helped cash flow. A colleague suggests Adom should simply pay its farms much more slowly to fix the cash problem. Give two reasons this might work and two reasons it might make things worse.