

Feb. 14 ⁰²	€2	€2	€2	€2	€2	€2	€2	€2	€2	€2	€2	€2
Mar. 31 ⁰²	€2	€2	€2	€2	€2	€2	€2	€2	€2	€2	€2	€2
April 12 ⁰²	€2	€2	€2	€2	€2	€2	€2	€2	€2	€2	€2	€2
May 4 ⁰²	€2	€2	€2	€2	€2	€2	€2	€2	€2	€2	€2	€2
June 30 ⁰²	€2	€2	€2	€2	€2	€2	€2	€2	€2	€2	€2	€2
Dec. 31 ⁰²	€2	€2	€2	€2	€2	€2	€2	€2	€2	€2	€2	€2

Do **not** calculate the balances of the accounts.

Question 1 – 8 marks – 13 minutes

Bernadette Inc. makes bacterial cultures for biology research experiments. She makes each batch by hand which takes a long time. She is thinking of buying a piece of equipment for \$80,000 to automate her production and increase her sales. If she buys the machine, she will be able to increase her annual sales by \$100,000 per year. The variable product costs associated with these extra sales will amount to \$60,000 per year. The machine will require occasional maintenance which will cost \$5,000 per year. At the end of the useful life of the equipment (in 10 years' time), Bernadette will be able to sell the machine for \$20,000.

Bernadette Inc. uses an interest rate of 4% in capital budgeting decision making.

Required:

- What is the net present value of buying the equipment?
- Should Bernadette buy the equipment? Why or why not?

Question 2 – 6 marks, 11 minutes

Jedi Enterprises makes small toys for the North American market. A customer from Europe has approached Jedi with an offer to purchase 10,000 units of their Millennium Falcon toy at a price of \$7 each. Each year, they can make 75,000 units of their Millennium Falcon toy but they're planning on only making 60,000 units this year. The normal sales price is \$12 per unit.

Unit cost information for the Millennium Falcon is as follows:

Direct materials	\$1.50
Direct labours	2.00
Variable factory overhead	1.00
Fixed factory overhead	3.25

Question 2 – 6 marks, 11 minutes

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Unit cost information for the Millennium Falcon is as follows:

Direct materials	\$1.50
Direct labour	2.00
Variable factory overhead	1.00
Fixed factory overhead	3.25
Fixed selling & admin.	0.25
Total	\$8.00

The European company would like their logo affixed to each toy using a label. Each label will cost Jedi Enterprises \$0.50 each. The extra cost to ship the Millennium Falcon to Europe is \$0.75 per toy. Total fixed costs will not change if they accept this special order.

Required:

How much will operating income increase or decrease if the special order is accepted?

Question 5 – 7 marks – 10 minutes

Elements of the Income Statement for Hofstadter Experiments Ltd. follow:

	2020	2019
Net Sales (all credit)	\$1,498,000	\$1,200,000
Cost of goods sold	1,043,000	820,000
Net Income	91,000	76,500

Highlights of the Balance Sheet:

	2020	2019
Cash	\$90,500	\$64,700
Temporary Investments	75,000	60,000
Accounts receivable (net)	115,000	120,000
Inventories	264,000	283,000
Prepaid expenses	5,500	5,300
Total current liabilities	210,000	243,000
Total liabilities	310,000	443,000
Total common shareholders' equity	829,500	787,500

Required: (Round all answers to 2 decimal places.)

- Calculate the gross profit rate for both 2019 and 2020.
- Did the gross profit rate improve or worsen from 2019 to 2020?
- What was the Accounts Receivable Turnover ratio for 2020?
- Explain what Accounts Receivable Turnover is in your own words.
- What was the Return on Common Shareholders' Equity for 2020?
- What was the Current Ratio for 2020?
- Is the current ratio calculated in f) adequate?

The accountant at Farrah Fowler Neurobiology Experiments Inc. has prepared the following budgeted income statement for 2019:

Required:

- 4-2

Cooper Physics Consulting Inc. began business on January 1, 2019. Selected transactions from 2019 are described below:

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Record the above transactions in the table below:

[illegible]