4 G Limited manufactures a single product type at one of its factories. The company uses marginal costing.

REQUIRED

(a) Define **each** of the following terms:

(i) contribution per unit

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(ii) stepped costs

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(iii) margin of safety.

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(b) State **two** benefits of using marginal costing.

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[2]

Additional information

The following budgeted information is available for September 2022.

Selling price per unit	$59
Direct materials per unit	8 kg at $2.70 per kg
Direct labour per unit	4 hrs at $8.20 per hour
Fixed costs per month	$18 400

All units produced are sold.

REQUIRED

(c) Calculate the monthly break-even point in units.

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Additional information

The directors hope to increase demand by improving the product.

The following information is available.

1 Current production of the original product is 7200 units per month. This represents 90% of normal capacity.

2 Direct materials will cost $3 per kg for the improved product. Each unit of the improved product will require 15% more material.

3 The selling price of the improved product will be $65.

4 It is expected that monthly production will increase by 20%.

5 The factory can operate in overtime conditions. Direct labour is paid 1.5 times the normal rate in overtime conditions.

6 An additional machine costing $40 000 will be required. Non-current assets are depreciated by 15% per annum.

REQUIRED

(d) Prepare a marginal costing statement to show the monthly forecast profit if the improved product is made.

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Additional information

At a **second** factory the company manufactures **another** single product type. The following information is available.

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Direct material per unit	13
Direct labour per unit	11
Other variable costs per unit	3
Selling price per unit	42
Fixed costs **per week**	12 000

The factory uses 10 machines, each producing 300 units per week. The directors are aware that problems have arisen with 4 machines which require urgent repairs. These machines will be taken out of production for 8 weeks.

The directors are considering **two** options.

Option A: Buy in goods
The goods will be provided by an overseas supplier at $34 per unit.
Total delivery costs of $4200 for 8 weeks will be charged.
The supplier can only provide 75% of the lost production.

Option B: Hire replacement machines
Only two replacement machines are available at a cost of $150 per machine per week.
The machines will only be available for 7 weeks.
Staff will require training on the replacement machines at a **total** cost of $700.

REQUIRED

(e) Calculate the profit for the 8 weeks for each option.

(i) Option A

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(ii) Option B

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(f) Advise the directors which option they should choose. Justify your answer by considering **both** options.

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