

- 4 Martina produces and sells a single type of product.

The following budgeted information is available for the year ending 30 November 2025.

	\$
Sales revenue (3500 units)	542 500
Direct materials	87 500
Direct labour	105 000
Production overheads	126 000
Selling overheads	157 500
Profit for the year	66 500

Variable production overheads are budgeted to be \$4 per unit.

Selling overheads include 5% sales commission. All remaining selling expenses are fixed.

- (a) Calculate:

- (i) the budgeted contribution **per unit**

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- (ii) the budgeted fixed overheads for the year

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(iii) the budgeted margin of safety **in units**.

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Additional information

Martina feels that production and sales could be increased by 20% by improving the quality of the product.

She plans to make the following changes.

- 1 Purchase new machinery at a cost of \$60 000. The machinery will have an estimated useful life of five years and a residual value of \$10 000 at the end of its lifetime.
- 2 Undertake an advertising campaign at a cost of \$1250 per month.
- 3 Reduce the selling price by \$6 per unit.
- 4 Purchase higher quality materials that will increase the direct material cost by \$3 per unit.
- 5 Direct labour hours per unit will reduce by 5%.
- 6 Use of the new machinery will reduce the unit variable production overhead by 20%.
- 7 Sales commission will remain at 5%, but commission on all units sold in excess of 3500 will be paid at 10%.

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Budgeted marginal cost statement for the year ending 30 November 2025

[illegible]

Workings:

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(d) Explain **one** advantage of cost–volume–profit analysis.

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..... [2]

(e) Explain **one** reason why marginal costing is considered to be more useful for short-term decision making than absorption costing.

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..... [2]

(f) Explain the effect on profit of using marginal costing rather than using absorption costing.

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..... [2]

[Total: 30]

Question	Answer	Marks																								
4(a)(i)	<p>Calculate: the budgeted contribution per unit. \$88.25 (3) W Working</p> <p>$\\$96.00 \text{ (1)} - \\$7.75 \text{ (1)} = \\$88.25 \text{ (1) OF}$</p>	3																								
4(a)(ii)	<p>Calculate: the budgeted fixed overheads for the year. \$242 375 (3) W Working</p> <table border="1"> <tr> <td></td><td>\$</td><td></td></tr> <tr> <td>Selling overheads $\\$157\,500 - (\\$7.75 \times 3\,500)$</td><td>130 375</td><td>(1)</td></tr> <tr> <td>Production overheads $\\$126\,000 - (\\$4 \times 3\,500)$</td><td>112 000</td><td>(1)</td></tr> <tr> <td>Budgeted fixed overheads</td><td>242 375</td><td>(1) OF</td></tr> </table> <p>Alternative answer if using \$2.25 in part (a) \$261 625 (3) W Working</p> <table border="1"> <tr> <td></td><td>\$</td><td></td></tr> <tr> <td>Selling overheads $\\$157\,500 - (\\$2.25 \times 3\,500)$</td><td>149 625</td><td>(1)</td></tr> <tr> <td>Production overheads $\\$126\,000 - (\\$4 \times 3\,500)$</td><td>112 000</td><td>(1)</td></tr> <tr> <td>Budgeted fixed overheads</td><td>261 625</td><td>(1) OF</td></tr> </table>		\$		Selling overheads $\$157\,500 - (\$7.75 \times 3\,500)$	130 375	(1)	Production overheads $\$126\,000 - (\$4 \times 3\,500)$	112 000	(1)	Budgeted fixed overheads	242 375	(1) OF		\$		Selling overheads $\$157\,500 - (\$2.25 \times 3\,500)$	149 625	(1)	Production overheads $\$126\,000 - (\$4 \times 3\,500)$	112 000	(1)	Budgeted fixed overheads	261 625	(1) OF	3
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4(a)(iii)	<p>Calculate: the budgeted margin of safety <u>in units</u>.</p> <p>753 (2) W</p> <p>Working</p> <table border="1"> <tr> <td></td><td>Units</td><td></td></tr> <tr> <td>Breakeven (\$242 375 / \$88.25)</td><td>2 747</td><td>(1)</td></tr> <tr> <td>Budgeted production</td><td>3 500</td><td></td></tr> <tr> <td>Margin of safety</td><td>753</td><td>(1) OF</td></tr> </table> <p>Alternative answer if using \$2.25 in part (a)</p> <p>709 (2) W</p> <p>Working</p> <table border="1"> <tr> <td></td><td>Units</td><td></td></tr> <tr> <td>Breakeven (\$261 625 / \$93.75)</td><td>2 791</td><td>(1) OF</td></tr> <tr> <td>Budgeted production</td><td>3 500</td><td></td></tr> <tr> <td>Margin of safety</td><td>709</td><td>(1) OF</td></tr> </table>		Units		Breakeven (\$242 375 / \$88.25)	2 747	(1)	Budgeted production	3 500		Margin of safety	753	(1) OF		Units		Breakeven (\$261 625 / \$93.75)	2 791	(1) OF	Budgeted production	3 500		Margin of safety	709	(1) OF	2
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4(b)	<p>Prepare a marginal cost statement for the year ended 30 November 2025 to show the revised contribution and revised profit for the year if Martina decides to go ahead with the plan.</p> <p style="text-align: center;">Martina Budgeted marginal cost statement for the year ending 30 November 2025</p> <table><tr><td>Revenue</td><td>4 200 × \$149</td><td>625 800</td><td>(1)</td></tr><tr><td>Direct materials</td><td>4 200 × \$28</td><td>(117 600)</td><td>(1)</td></tr><tr><td>Direct labour</td><td>4 200 × \$28.50</td><td>(119 700)</td><td>(1)</td></tr><tr><td>Variable production overhead</td><td>4 200 × \$3.20</td><td>(13 440)</td><td>(1)</td></tr><tr><td>Sales commission basic</td><td>3 500 × \$7.45</td><td>(26 075)</td><td>(1)</td></tr><tr><td>Sales commission proposed</td><td>700 × \$14.90</td><td>(10 430)</td><td>(1)</td></tr><tr><td>Contribution</td><td></td><td>338 555</td><td>(1) OF</td></tr><tr><td>Fixed costs</td><td></td><td>267 375</td><td>(1) OF</td></tr><tr><td>Profit</td><td></td><td>71 180</td><td>(1) OF</td></tr></table>	Revenue	4 200 × \$149	625 800	(1)	Direct materials	4 200 × \$28	(117 600)	(1)	Direct labour	4 200 × \$28.50	(119 700)	(1)	Variable production overhead	4 200 × \$3.20	(13 440)	(1)	Sales commission basic	3 500 × \$7.45	(26 075)	(1)	Sales commission proposed	700 × \$14.90	(10 430)	(1)	Contribution		338 555	(1) OF	Fixed costs		267 375	(1) OF	Profit		71 180	(1) OF	9
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4(c)	<p>Advise Martina whether or not she should go ahead with the plan. Justify your answer by considering <u>both</u> financial and non-financial factors.</p> <p>Financial (Max 3)</p> <ul style="list-style-type: none"> • Will increase profits by less than 5%. (1) • Sales force will have greater incentive to sell with increased commission. (1) • Will machinery incur maintenance costs not budgeted for? (1) • Have finance costs been factored into the plan? (1) • Depreciation and advertising will increase fixed costs, reducing profit (1) <p>Non-financial (Max 3)</p> <ul style="list-style-type: none"> • Will customers remain loyal to the new product design? (1) • Will the new machinery actually save 5% labour hours? (1) • Will the workforce accept the effective lower unit wage rate? (1) • Will the advertising campaign result in the anticipated increased sales? (1) • How accurate are the estimates? (1) <p>Decision supported with a comment (1)</p> <p>Accept other valid responses</p>	7
4(d)	<p>Explain <u>one</u> advantage of cost – volume – profit analysis.</p> <p>It enables a business to know the amount of profit generated at different levels of output (1) and therefore how much to produce and sell in order to prevent a loss (1)</p> <p>Accept other valid responses</p>	2

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Question	Answer	Marks
4(e)	<p>Explain <u>one</u> reason why marginal costing is considered to be more useful for short-term decision making than absorption costing.</p> <p>Marginal costing enables a business to calculate contribution which helps decide whether special orders etc should be accepted (1) whereas absorption costing treats fixed costs as part of the product cost which makes such decisions impractical (1)</p> <p>Accept other valid responses</p>	2
4(f)	<p>Explain the effect on profit of using marginal costing rather than using absorption costing.</p> <p>Using marginal costing will result in higher profits if inventory levels decrease/lower profits if inventory levels increase (1) as inventory valuation in marginal costing does not consider fixed costs as part of the product cost, unlike absorption costing (1)</p> <p>Accept other valid responses</p>	2