3 Bodger Ltd has been in the business of buying and selling washing machines for some years, but has decided to look at the possibility of manufacturing its own brand. At present, under Option 1, machines are bought in for $280 and sold for $400. You have been asked to compare this with the two new options under assessment. Under Option 1 fixed costs are minimal and are not taken into account. The figures are as follows.

		Option 2	Option 3
		$	$
Unit costs	Direct Materials	50	50
	Direct Labour	70	30
	Variable Overheads	30	20
Fixed Costs		$30 000 000	$50 000 000
Unit Selling Price		$370	$420

All costs relating to the washing machines are included in the above.
The directors expect to sell at least 200 000 machines per annum.

REQUIRED

(a) Calculate, to the nearest whole number, the break-even point in units **and** in value for options 2 and 3.

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..... [5]

(b) Calculate which of the three options is most profitable at the following levels.

(i) 190 000 units

(ii) 240 000 units

(iii) 290 000 units

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..... [9]

(c) Calculate the level in **units** at which options 2 and 3 show the same net profit.

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..... [3]

(d) Calculate the minimum level of production at which it is better to manufacture rather than buy in stock.

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..... [3]

(e) Briefly assess **each** option.

Option 1: ..... [2]

Option 2: ..... [2]

Option 3: ..... [2]

(f) State **two** assumptions which may be made when using break-even analysis and state **one** limitation of each assumption. Your answer should take the form of the example given below.

ASSUMPTION	LIMITATION
All production is sold	Businesses usually have closing stock
1. .... 2.	....

[4]