

- c Calculate the change in the average cost of production for *Drones-R-Us* at 100 units and 200 units of output. [2]

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- d With reference to part c above, explain why operating at a larger level of output can benefit *Drones-R-Us*. [4]

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3.3 Break-even analysis

- 1 *Jake's Skates* has an average selling price of \$40, fixed costs of \$1 000 per month and variable costs of \$15.
- a Calculate the break-even quantity for *Jake's Skates*. [2]

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- b Calculate the value of profit or loss for *Jake's Skates* if it sells 65 units per month. [2]

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- c Calculate the target profit output if *Jake's Skates* wants to earn a profit of \$800 per month. [2]

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- 2 *Mo's Hotdogs* has unit costs of \$1.50 and sells each hotdog for \$4. Its fixed costs are \$1 000 per time period.
- a Calculate the break-even quantity for *Mo's Hotdogs*. [2]

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b Calculate the margin of safety if *Mo's Hotdogs* sells 650 hotdogs per time period. [2]

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c Calculate the profit for *Mo's Hotdogs* if it sells 650 hotdogs per time period. [2]

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3 *STC Co.* has sales revenue of \$60 000 and makes a profit of \$10 000. Fixed costs are \$5 000 and sales volume is 10 000 units.

a Calculate *STC Co.*'s selling price. [2]

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b Calculate *STC Co.*'s variable cost per unit. [3]

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c Calculate the value of *STC Co.*'s total costs and total revenue at the break-even level of output. [4]

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d Calculate the change in *STC Co.*'s profits if a 10% price rise reduces sales volume by 5%. [4]

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4 The *Oolab Wand Co.* sells its products for \$50 each. During the year, the firm forecasts sales of 40 000 units. Its fixed costs are \$600 000 per year. Variable costs are \$20 per unit.

a Calculate the contribution per unit for *Oolab Wand Co.* [1]

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b Calculate the break-even quantity for *Oolab Wand Co.* [2]

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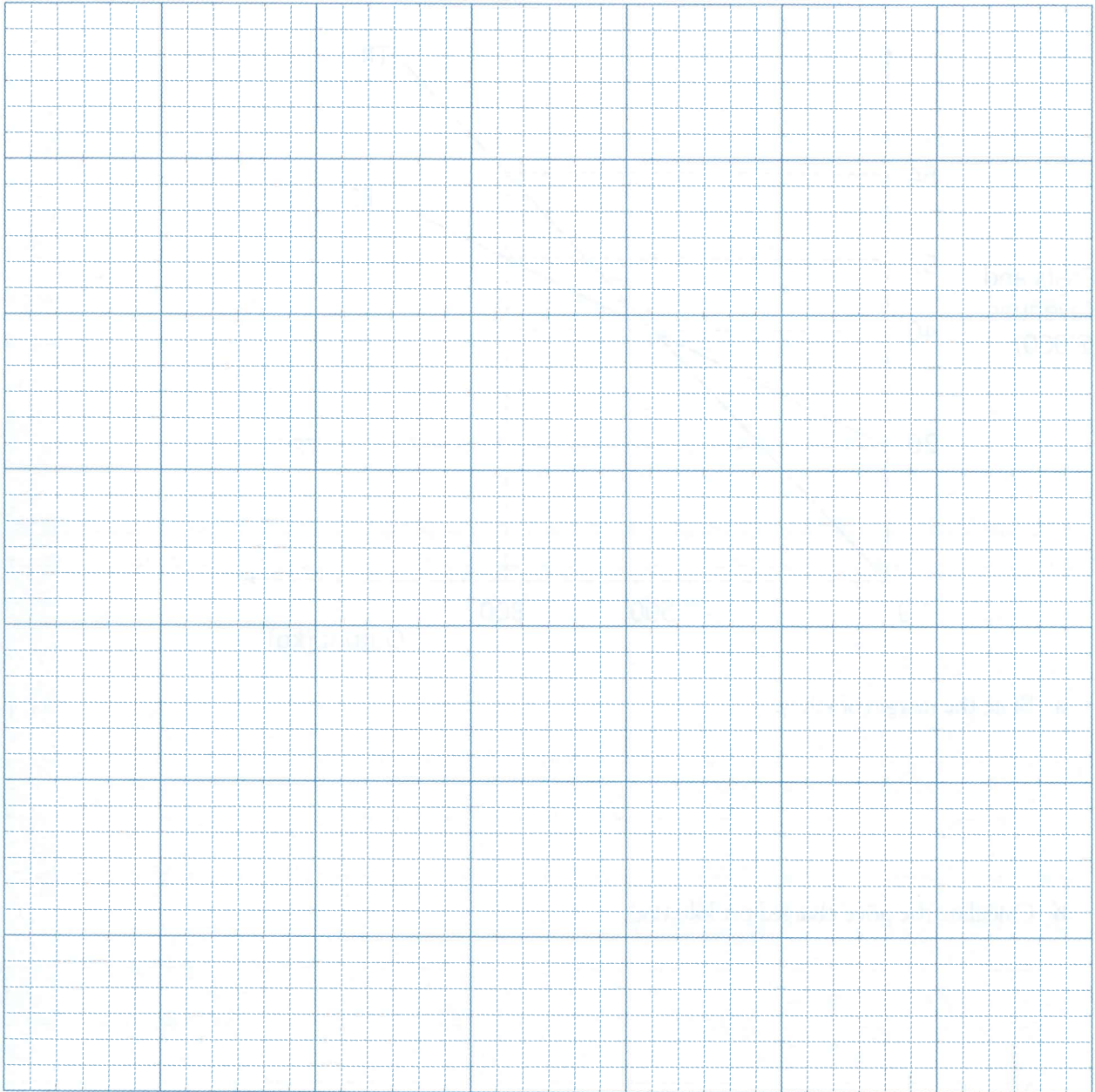
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c Calculate the expected margin of safety for *Oolab Wand Co.* [2]

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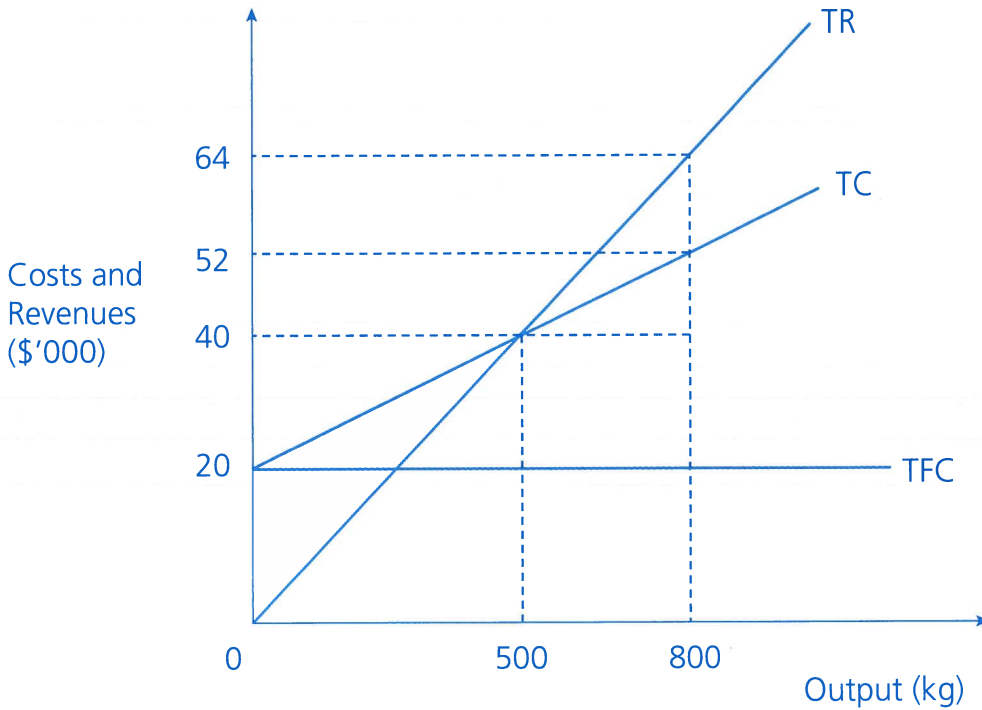
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- d Plot and label a break-even chart for *Oolab Wand Co.*, clearly showing the break-even quantity and the margin of safety. [6]



5 Refer to the break-even chart below, which is for *Satcolbe Ltd*.

Break-even chart for *Satcolbe Ltd*



a State the margin of safety. [1]

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b Calculate the price charged per kilo (kg). [2]

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c Calculate the variable cost per kilo (kg). [2]

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d Calculate *Satcolbe Ltd*'s total contribution at 800 units. [2]

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