

Break-even analysis

Use fixed costs and contribution per unit to calculate a manufacturing business's break-even quantity.

Classify the costs

Total fixed costs stay unchanged within the relevant activity range. Variable costs change with output. Contribution per unit is selling price per unit minus variable cost per unit.

Interpret break-even

At break-even, total revenue equals total costs. If required units are not a whole number, round up because a fraction of a unit cannot cover the remaining cost.

Formula sheet

Contribution per unit = selling price - variable cost per unit

Break-even units = total fixed costs / contribution per unit

Worked example

Fixed costs are R120 000. Selling price is R80 and variable cost is R50 per unit. Calculate break-even units.

1. Contribution per unit = $R80 - R50 = R30$.
2. Break-even quantity = $R120\,000 / R30$.
3. The business must sell 4 000 units to break even.

Try it yourself

1. What happens to break-even quantity when fixed costs rise and contribution stays unchanged?
2. Fixed costs R10 000; contribution R30 per unit. How many whole units are needed?

Check your answers

1. The break-even quantity rises.
2. $10\,000 / 30 = 333.33...$; round up to 334 units.

Common mistake

Do not use selling price alone as the denominator. Use contribution per unit.

Source and scope

Original Pass Papers ZA revision notes; curriculum reference linked below.

Updated 2026-10-28. Selected revision topics, not an official examination paper. Check your teacher's scope.

Official DBE curriculum / textbook reference

Read online: <https://passpapers.co.za/study/revision/grade-12-accounting-break-even>