Break-Even & Cost-Volume-Profit (CVP) Master Cheat Sheet

Contribution Margin, Target Profit, Margin of Safety & Degree of Operating Leverage Formulas

1. CORE CVP FORMULA SUITE

Metric / Decision Tool	Calculation Formula	Operational Significance
Contribution Margin (CM) per Unit	**Selling Price per Unit (P) – Variable Cost per Unit (V)**	Dollar amount of each unit sold that covers fixed costs.
Contribution Margin Ratio (CM%)	**CM per Unit / Selling Price per Unit (or Total CM / Sales)**	Percentage of each sales dollar available to cover fixed costs.
Break-Even in Units	**Total Fixed Costs / CM per Unit**	Unit sales volume where Operating Income = $0.
Break-Even in Revenue ($)	**Total Fixed Costs / CM Ratio**	Gross dollar sales required to reach zero net operating profit.
Target Operating Profit (Units)	**(Total Fixed Costs + Target Operating Profit) / CM per Unit**	Sales volume needed to hit pre-tax target profit.
Target Net Income After-Tax (Units)	**[Total Fixed Costs + (Target Net Income / (1 – Tax Rate))] / CM per Unit**	Converts required after-tax profit to pre-tax required margin.

2. RISK BUFFER: MARGIN OF SAFETY & OPERATING LEVERAGE

Metric	Formula	Risk Evaluation Meaning
Margin of Safety ($)	Expected Sales ($) – Break-Even Sales ($)	Amount sales can drop before firm incurs a net loss.
Margin of Safety %	Margin of Safety ($) / Expected Sales ($)	Higher % = greater safety cushion against downturns.
Degree of Operating Leverage	Total Contribution Margin / Operating Income (EBIT)	Measures profit sensitivity (% EBIT change per 1% sales change).