Breakeven Analysis
BUSI 101B

Variables	**Equation or Definition**
Price = P	Price of good or service being produced or sold – often referred to as the *output price*
Quantity = Q	Quantity of good or service being produced or sold – often referred to as the *output quantity*
Total Revenue = TR	$TR = P\ x\ Q$
Total Cost = TC	Sum of all costs
Total Variable Costs = TVC	Sum of all variable costs
Fixed Costs = FC	Costs not related to the number of units (Q) being produced or sold
Total Fixed Costs = TFC	Sum of all fixed costs
Average Variable Costs = AVC	Per unit costs expressly associated with the units being produced or sold
Total Variable Costs = TVC	Sum of all variable costs
Average Cost	(TFC + TVC) / Q
Profit = π	$\pi = TR - TC$
Breakeven	The quantity of units prodiced at which $TR = TC$ such that $\pi = 0$

Breakeven Equations

Basic Breakeven Equation	$P\ x\ Q = TFC + AVC\ x\ Q$
Solve for Q	$Q = \frac{TFC + \pi}{P - AVC}$
Solve for π	$\pi = (P - AVC)\ x\ Q - TFC$
Solve for P	$P = \frac{TFC + \pi}{Q} + AVC$
Solve for TFC	$TFC = (P - AVC)\ x\ Q - \pi$
Solve for AVC	$AVC = P - \frac{TFC + \pi}{Q}$