

One Variable Data Table

Show the Possible Outcomes as you Vary a Single Data Cell

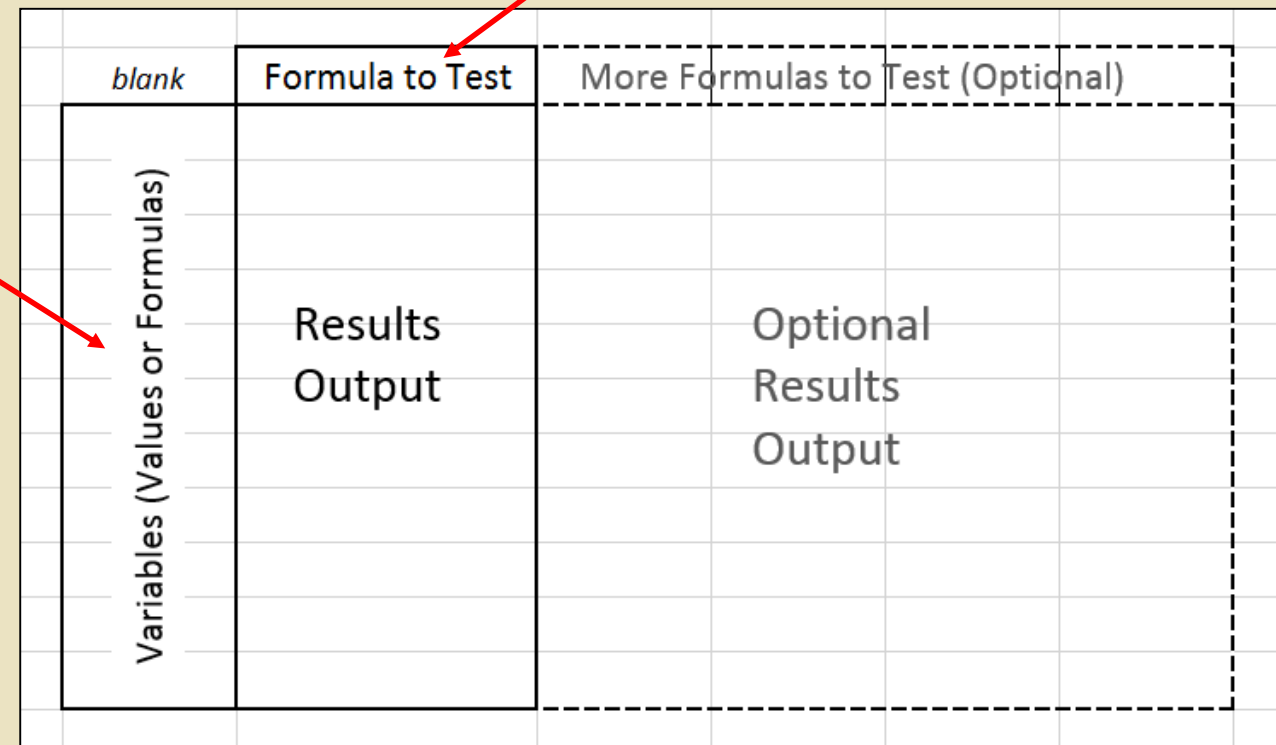
Structure of a One Variable Data Table

Structure of One Variable Data Table

These are the variables you wish to test. In this example they are the Units Sold. Each value in the column will be run through the cell containing our Units Sold (B6) to see what the corresponding Profit would be. B6 is our **Column Input Cell** because our variables are in a column and they will be substituted into cell B6.

This is the formula (or a link to the formula) that returns the results you are after. In this example it is the **Profit** formula in B12 so we would type: =B12

| | A | B | C | D | E |
|----|---|-------------|---|--------------|---------------|
| 1 | What Would Profit be for Different Units Sold? | | | | |
| 2 | Assume Price is Steady at \$33 | | | | |
| 3 | | | | | |
| 4 | | | | Units | Profit |
| 5 | Price | \$ 33.00 | | | \$ 1,600.00 |
| 6 | Units Sold | \$ 200.00 | | - | |
| 7 | Revenue | \$ 6,600.00 | | 50 | |
| 8 | Cost Per Unit (\$15) | \$ 15.00 | | 100 | |
| 9 | Variable Cost | \$ 3,000.00 | | 150 | |
| 10 | Fixed Costs (\$2,000) | \$ 2,000.00 | | 200 | |
| 11 | Total Costs | \$ 5,000.00 | | 250 | |
| 12 | Profit | \$ 1,600.00 | | 300 | |
| 13 | | | | 350 | |
| 14 | | | | 400 | |
| 15 | | | | 450 | |
| 16 | | | | | |



Exercise 1: One Variable Data Table – Units Vary

Find Profits for Various Units Sold

| | A | B | C | D | E |
|----|---|-------------|---------|--------------|---------------|
| 1 | What Would Profit be for Different Units Sold? | | | | |
| 2 | <i>Assume Price is Steady at \$33 and Start with Units Sold at 200.</i> | | | | |
| 3 | | | | | |
| 4 | | | | Units | Profit |
| 5 | Price | \$ 33 | | | =B12 |
| 6 | Units Sold | 200 | | - | |
| 7 | Revenue | \$ 6,600.00 | =B5*B6 | 50 | |
| 8 | Cost Per Unit (\$15) | \$ 15.00 | | 100 | |
| 9 | Variable Cost | \$ 3,000.00 | =B6*B8 | 150 | |
| 10 | Fixed Costs (\$2,000) | \$ 2,000.00 | | 200 | |
| 11 | Total Costs | \$ 5,000.00 | =B9+B10 | 250 | |
| 12 | Profit | \$ 1,600.00 | =B7-B11 | 300 | |
| 13 | | | | 350 | |
| 14 | | | | 400 | |
| 15 | | | | 450 | |

Part 1

Fill out the Spreadsheet as shown.

Exercise 1: One Variable Data Table – Vary Units

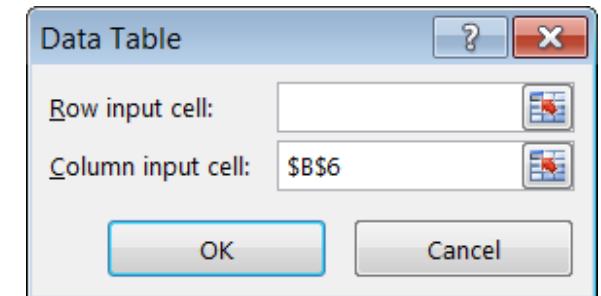
Find Profits for Various Units Sold

Part 2

- Highlight D5:E15
- From the menu click: "**Data – What If Analysis – Data Table**".
- Set the "**Column input cell**" to **B6** (Units Sold) and click "**OK**".
- Click "**OK**".

| | A | B | C | D | E |
|----|--|-------------|---|-------|-------------|
| 1 | What Would Profit be for Different Units Sold? | | | | |
| 2 | Assume Price is Steady at \$33 and Start with Units Sold at 200. | | | | |
| 3 | | | | | |
| 4 | | | | Units | Profit |
| 5 | Price | \$ 33 | | | \$ 1,600.00 |
| 6 | Units Sold | 200 | | - | |
| 7 | Revenue | \$ 6,600.00 | | 50 | |
| 8 | Cost Per Unit (\$15) | \$ 15.00 | | 100 | |
| 9 | Variable Cost | \$ 3,000.00 | | 150 | |
| 10 | Fixed Costs (\$2,000) | \$ 2,000.00 | | 200 | |
| 11 | Total Costs | \$ 5,000.00 | | 250 | |
| 12 | Profit | \$ 1,600.00 | | 300 | |
| 13 | | | | 350 | |
| 14 | | | | 400 | |
| 15 | | | | 450 | |
| 16 | | | | | |

| | A | B | C | D | E |
|----|--|-------------|---|-------|---------------|
| | What Would Profit be for Different Units Sold? | | | | |
| | Assume Price is Steady at \$33 and Start with Units Sold at 200. | | | | |
| | | | | | |
| | | | | Units | Profit |
| | | \$ 33 | | | \$ 1,600.00 |
| 6 | Units Sold | 200 | | - | \$ (2,000.00) |
| 7 | Revenue | \$ 6,600.00 | | 50 | \$ (1,100.00) |
| 8 | Cost Per Unit (\$15) | \$ 15.00 | | 100 | \$ (200.00) |
| 9 | Variable Cost | \$ 3,000.00 | | 150 | \$ 700.00 |
| 10 | Fixed Costs (\$2,000) | \$ 2,000.00 | | 200 | \$ 1,600.00 |
| 11 | Total Costs | \$ 5,000.00 | | 250 | \$ 2,500.00 |
| 12 | Profit | \$ 1,600.00 | | 300 | \$ 3,400.00 |
| 13 | | | | 350 | \$ 4,300.00 |
| 14 | | | | 400 | \$ 5,200.00 |
| 15 | | | | 450 | \$ 6,100.00 |
| 16 | | | | | |



You should get the profits shown to the left. It tells you what your profits would be for each value of Units.

Student Exercise: Show Profit for Various Profits

Show what the Profits would be if you Vary Price

| | A | B | C | D | E |
|----|---|---------------|---|--------------|---------------|
| 1 | What Would Profit be for Different Prices? | | | | |
| 2 | <i>Assume Units Sold is Steady at 500 and start with a Price of \$15.</i> | | | | |
| 3 | | | | | |
| 4 | | | | Price | Profit |
| 5 | Price | \$ 15 | | | \$ (2,000.00) |
| 6 | Units Sold | 500 | | 15 | \$ (2,000.00) |
| 7 | Revenue | \$ 7,500.00 | | 16 | \$ (1,500.00) |
| 8 | Cost Per Unit (\$15) | \$ 15.00 | | 17 | \$ (1,000.00) |
| 9 | Variable Cost | \$ 7,500.00 | | 18 | \$ (500.00) |
| 10 | Fixed Costs (\$2,000) | \$ 2,000.00 | | 19 | \$ - |
| 11 | Total Costs | \$ 9,500.00 | | 20 | \$ 500.00 |
| 12 | Profit | \$ (2,000.00) | | 21 | \$ 1,000.00 |
| 13 | | | | 22 | \$ 1,500.00 |
| 14 | | | | 23 | \$ 2,000.00 |
| 15 | | | | 24 | \$ 2,500.00 |

Exercise 2: One Variable, Two Formulas

Show Future Value for Various Monthly Deposits

| | A | B | C | D | E | F |
|----|---|----|---|-----|---------------------|------------------|
| 1 | Retirement Planning: FV(Rate/12,Months,Deposits) | | | | | |
| 2 | | | | | | |
| 3 | | | | | No Investing | Investing |
| 4 | Monthly Deposit | 10 | | | \$3,600.00 | \$6,940.49 |
| 5 | Years Until Retirement | 30 | | 100 | \$ 36,000 | \$ 69,405 |
| 6 | Expected Monthly Avg Rate | 4% | | 125 | \$ 45,000 | \$ 86,756 |
| 7 | | | | 150 | \$ 54,000 | \$ 104,107 |
| 8 | | | | 175 | \$ 63,000 | \$ 121,459 |
| 9 | | | | 200 | \$ 72,000 | \$ 138,810 |
| 10 | | | | 225 | \$ 81,000 | \$ 156,161 |
| 11 | | | | 250 | \$ 90,000 | \$ 173,512 |
| 12 | | | | 275 | \$ 99,000 | \$ 190,864 |
| 13 | | | | 300 | \$ 108,000 | \$ 208,215 |
| 14 | | | | 325 | \$ 117,000 | \$ 225,566 |
| 15 | | | | 350 | \$ 126,000 | \$ 242,917 |

Determine how much money you would have in 30 years by depositing a specific monthly amount.

Show one column if you simply hid it under your mattress (12*30*Monthly deposit)

And another column if you invested it at 4%.
 =FV(Rate,Periods,Pmt Amount)

Exercise 2: One Variable, Two Formulas

Show Future Value for Various Monthly Deposits

| | A | B | C | D | E | F |
|----|--|----|---|-----|--------------|---------------------|
| 1 | Retirement Planning: FV(Rate/12,Months,Deposits) | | | | | |
| 2 | | | | | | |
| 3 | | | | | No Investing | Investing |
| 4 | Monthly Deposit | 10 | | | =B5*12*B4 | =FV(B6/12,B5*12,B4) |
| 5 | Years Until Retirement | 30 | | 100 | | |
| 6 | Expected Monthly Avg Rate | 4% | | 125 | | |
| 7 | | | | 150 | | |
| 8 | | | | 175 | | |
| 9 | | | | 200 | | |
| 10 | | | | 225 | | |
| 11 | | | | 250 | | |
| 12 | | | | 275 | | |
| 13 | | | | 300 | | |
| 14 | | | | 325 | | |
| 15 | | | | 350 | | |

Part 1

Type the formulas shown in E4 and F4.

Exercise 2: One Variable, Two Formulas

Show Future Value for Various Monthly Deposits

| | A | B | C | D | E | F |
|----|--|----|---|-----|--------------|------------|
| 1 | Retirement Planning: FV(Rate/12,Months,Deposits) | | | | | |
| 2 | | | | | | |
| 3 | | | | | No Investing | Investing |
| 4 | Monthly Deposit | 10 | | | \$3,600.00 | \$6,940.49 |
| 5 | Years Until Retirement | 30 | | 100 | | |
| 6 | Expected Monthly Avg Rate | 4% | | 125 | | |
| 7 | | | | 150 | | |
| 8 | | | | 175 | | |
| 9 | | | | 200 | | |
| 10 | | | | 225 | | |
| 11 | | | | 250 | | |
| 12 | | | | 275 | | |
| 13 | | | | 300 | | |
| 14 | | | | 325 | | |
| 15 | | | | 350 | | |
| 16 | | | | | | |

Part 2

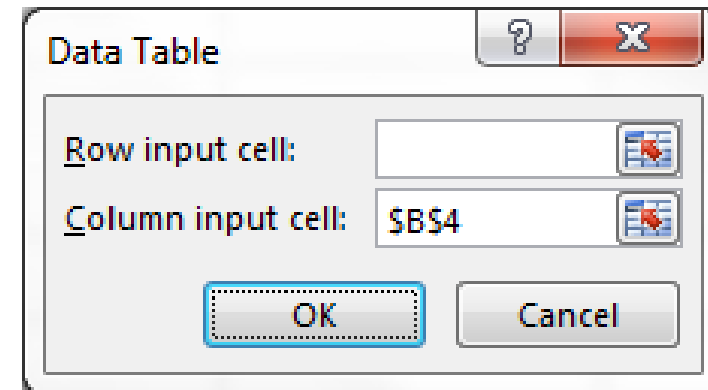
a.) Highlight D4:F15

b.) From the menu click:

Data – What If Analysis – Data Table...

c.) Set the *Column Input Cell* to **B4**.

d.) Click “OK”.



You should get the results shown on the first slide of this exercise.

Two Variable Data Table

Show the Possible Outcomes as you Vary Two Data Cells

Structure of a Two Variable Data Table

Formula Whose Results You wish to Display

This corner of the structure must contain either the formula whose results you wish to display or a link to the cell containing the formula whose results you wish to display. For example, it might be a formula that returns *Profit* for given *Prices* and *Units Sold*.

Row Variable List

This is a list of the different values you wish to substitute into a cell that the formula in the right corner references. For example, if the cell in the right corner returns *profit*, this row might contain *Unit Price*. Row variables should be values as formulas can produce incorrect results if they reference the same celled used to produce your results.

Column Variable List

This is a list of the different values you wish to substitute into a cell that the formula in the right corner references. For example, if the cell in the right corner returns *Profit*, this row might contain *Units Sold*. Column variables should be values as formulas can produce incorrect results if they reference the same celled used to produce your results.

| Formula to Evaluate | Row Variables (Values or Formulas) |
|---------------------------------------|--|
| Column Variables (Values or Formulas) | <p data-bbox="1284 972 1429 1072" style="text-align: center;">Results Output</p> <div data-bbox="1072 1100 1753 1258" style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"><p>The results generated by a Two Variable Data Table will appear here. For example, profits.</p></div> |

Exercise: Two Variable Data Table

Show Future Value for Various Monthly Deposits and Various Rates

| | A | B | C | D | E | F | G | H | I | J | K | L |
|----|--|-------------|---|-------------|------------|------------|------------|------------|------------|------------|------------|------------|
| 1 | Two Variable Data Table: FV as Deposits and Rate Varies | | | | | | | | | | | |
| 2 | Deposits are Monthly for 30 Years in Equal Amounts | | | | | | | | | | | |
| 3 | | | | | | | | | | | | |
| 4 | Monthly Deposit | -100 | | \$69,404.94 | 2% | 3% | 4% | 5% | 6% | 7% | 8% | 9% |
| 5 | Years Until Retirement | 30 | | -100 | \$ 49,273 | \$ 58,274 | \$ 69,405 | \$ 83,226 | \$ 100,452 | \$ 121,997 | \$ 149,036 | \$ 183,074 |
| 6 | Expected Monthly Avg Rate | 4% | | -125 | \$ 61,591 | \$ 72,842 | \$ 86,756 | \$ 104,032 | \$ 125,564 | \$ 152,496 | \$ 186,295 | \$ 228,843 |
| 7 | Value at Retirement (FV) | \$69,404.94 | | -150 | \$ 73,909 | \$ 87,411 | \$ 104,107 | \$ 124,839 | \$ 150,677 | \$ 182,996 | \$ 223,554 | \$ 274,612 |
| 8 | | | | -175 | \$ 86,227 | \$ 101,979 | \$ 121,459 | \$ 145,645 | \$ 175,790 | \$ 213,495 | \$ 260,813 | \$ 320,380 |
| 9 | | | | -200 | \$ 98,545 | \$ 116,547 | \$ 138,810 | \$ 166,452 | \$ 200,903 | \$ 243,994 | \$ 298,072 | \$ 366,149 |
| 10 | | | | -225 | \$ 110,863 | \$ 131,116 | \$ 156,161 | \$ 187,258 | \$ 226,016 | \$ 274,493 | \$ 335,331 | \$ 411,917 |
| 11 | | | | -250 | \$ 123,181 | \$ 145,684 | \$ 173,512 | \$ 208,065 | \$ 251,129 | \$ 304,993 | \$ 372,590 | \$ 457,686 |
| 12 | | | | -275 | \$ 135,499 | \$ 160,253 | \$ 190,864 | \$ 228,871 | \$ 276,242 | \$ 335,492 | \$ 409,849 | \$ 503,454 |
| 13 | | | | -300 | \$ 147,818 | \$ 174,821 | \$ 208,215 | \$ 249,678 | \$ 301,355 | \$ 365,991 | \$ 447,108 | \$ 549,223 |
| 14 | | | | -325 | \$ 160,136 | \$ 189,389 | \$ 225,566 | \$ 270,484 | \$ 326,467 | \$ 396,491 | \$ 484,367 | \$ 594,992 |
| 15 | | | | -350 | \$ 172,454 | \$ 203,958 | \$ 242,917 | \$ 291,291 | \$ 351,580 | \$ 426,990 | \$ 521,626 | \$ 640,760 |

Exercise: Two Variable Data Table

Show Future Value for Various Monthly Deposits and Various Rates

| | A | B | C | D | E | F | G | H | I | J | K | L |
|----|--|---------------------|-----|------|----|----|----|----|----|----|----|----|
| 1 | Two Variable Data Table: FV as Deposits and Rate Varies | | | | | | | | | | | |
| 2 | Deposits are Monthly for 30 Years in Equal Amounts | | | | | | | | | | | |
| 3 | | | | | | | | | | | | |
| 4 | Monthly Deposit | -100 | =B7 | | 2% | 3% | 4% | 5% | 6% | 7% | 8% | 9% |
| 5 | Years Until Retirement | 30 | | -100 | | | | | | | | |
| 6 | Expected Monthly Avg Rate | 4% | | -125 | | | | | | | | |
| 7 | Value at Retirement (FV) | =FV(B6/12,B5*12,B4) | | -150 | | | | | | | | |
| 8 | | | | -175 | | | | | | | | |
| 9 | | | | -200 | | | | | | | | |
| 10 | | | | -225 | | | | | | | | |
| 11 | | | | -250 | | | | | | | | |
| 12 | | | | -275 | | | | | | | | |
| 13 | | | | -300 | | | | | | | | |
| 14 | | | | -325 | | | | | | | | |
| 15 | | | | -350 | | | | | | | | |
| 16 | | | | | | | | | | | | |

Part 1: Create the data cells and formulas shown.

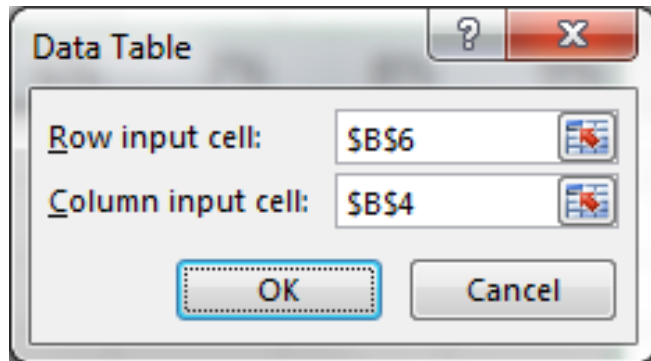
Exercise: Two Variable Data Table

Show Future Value for Various Monthly Deposits and Various Rates

Part 2

- Highlight **D4:L15**.
- From the menu:
Data – What If Analysis – Data Table...
- Set Row Input Cell to: **B6**
Set Column Input Cell to **B4**
- Click “**OK**”.

| | A | B | C | D | E | F | G | H | I | J | K | L |
|----|---|-------------|---|----------|----|----|----|----|----|----|----|----|
| 1 | Two Variable Data Table: FV as Deposits and Rate Varies | | | | | | | | | | | |
| 2 | Deposits are Monthly for 30 Years in Equal Amounts | | | | | | | | | | | |
| 3 | | | | | | | | | | | | |
| 4 | Monthly Deposit | -100 | | \$69,405 | 2% | 3% | 4% | 5% | 6% | 7% | 8% | 9% |
| 5 | Years Until Retirement | 30 | | -100 | | | | | | | | |
| 6 | Expected Monthly Avg Rate | 4% | | -125 | | | | | | | | |
| 7 | Value at Retirement (FV) | \$69,404.94 | | -150 | | | | | | | | |
| 8 | | | | -175 | | | | | | | | |
| 9 | | | | -200 | | | | | | | | |
| 10 | | | | -225 | | | | | | | | |
| 11 | | | | -250 | | | | | | | | |
| 12 | | | | -275 | | | | | | | | |
| 13 | | | | -300 | | | | | | | | |
| 14 | | | | -325 | | | | | | | | |
| 15 | | | | -350 | | | | | | | | |



You should get the results shown on the first page of this exercise.

Using Data Tables (and some algebra) for a Break Even Analysis

What is Break Even Analysis?

The Point where your Sales Cover your Expenses

| | A | B | C | D |
|----|---|---------------|---|---|
| 1 | Break Even Analysis (Profit Goes to 0) | | | |
| 2 | <i>If we produced 100 units, what price must we sell them at to break even?</i> | | | |
| 3 | <i>If Price is \$25, how many units must we sell to break even?</i> | | | |
| 4 | | | | |
| 5 | Price | 25 | | |
| 6 | Units Sold | 100 | | |
| 7 | Revenue | \$ 2,500.00 | | |
| 8 | Cost Per Unit (\$15) | \$ 15.00 | | |
| 9 | Variable Cost | \$ 1,500.00 | | |
| 10 | Fixed Costs (\$2000) | \$ 2,000.00 | | |
| 11 | Total Costs | \$ 3,500.00 | | |
| 12 | Profit | \$ (1,000.00) | | |

Goes to Zero
at Break Even

- For a given price, how many units must you sell to break even?

or

- For a given number of units sold, what price must you charge to break even?

Exercise: Find Breakeven Prices for Various Units Sold

Using a One Variable Data Table

| | A | B | C | D | E |
|----|--|---------------------|---|---------------------|-------------|
| 1 | Break Even Analysis (Profit = 0) | | | | |
| 2 | What Should Price be to break even if we vary Units? | | | Units Varied | |
| 3 | | | | Units | Prices Are: |
| 4 | | Units Varied | | | \$55.00 |
| 5 | Price | \$ 55.00 | | 50 | \$55.00 |
| 6 | Units Sold | 50 | | 100 | \$35.00 |
| 7 | Revenue | \$ 2,750.00 | | 150 | \$28.33 |
| 8 | Cost Per Unit (\$15) | \$ 15.00 | | 200 | \$25.00 |
| 9 | Variable Cost | \$ 750.00 | | 250 | \$23.00 |
| 10 | Fixed Costs (\$2000) | \$ 2,000.00 | | 300 | \$21.67 |
| 11 | Total Costs | \$ 2,750.00 | | 350 | \$20.71 |
| 12 | Profit | \$ - | | 400 | \$20.00 |
| 13 | | | | 450 | \$19.44 |
| 14 | | | | 500 | \$19.00 |
| 15 | | | | | |

We wish to generate a list of breakeven Prices for the Units listed. For example, at 300 Units the breakeven price is \$21.67.

This example has two main requirements:

Part One: Building the Model

Create a model where typing almost any number in *Units Sold* will cause the formula in *Price* to return a value that causes the formula in *Profit* to return zero.

Part Two: Use of a One-Variable Data Table to generate Prices.

Exercise: Find Breakeven Prices for Various Units Sold

Algebraically Forcing Profit to Go to Zero when Units Sold Varies (Finding Price)

Price and Units Sold are both variables that affect Profit. If we state any value for **Units Sold** there is almost always a corresponding value we can assign to **Price** to make Profit go to zero.

$$\text{Profit} = \text{Price} * \text{Units} - \text{Variable Cost Per Unit} * \text{Units} - \text{Fixed Costs}$$

| | A | B |
|----|----------------------|--------------|
| 4 | | |
| 5 | Price | \$ 25.00 |
| 6 | Units Sold | 500 |
| 7 | Revenue | \$ 12,500.00 |
| 8 | Cost Per Unit (\$15) | \$ 15.00 |
| 9 | Variable Cost | \$ 7,500.00 |
| 10 | Fixed Costs (\$2000) | \$ 2,000.00 |
| 11 | Total Costs | \$ 9,500.00 |
| 12 | Profit | \$ 3,000.00 |

If we set Profit to Zero and Solve for Price, the equation will return the Price we need to charge for any given number of Units.

Exercise: Find Breakeven Prices for Various Units Sold

Part One: Setting Profit to Zero and Solving for Price

$$\text{Profit} = \text{Price} * \text{Units} - \text{Var. Cost Per Unit} * \text{Units} - \text{Fixed Costs}$$

$$0 = \text{Price} * \text{Units} - \text{Var. Cost Per Unit} * \text{Units} - \text{Fixed Costs}$$

$$\text{Var. Cost Per Unit} * \text{Units} + \text{Fixed Costs} = \text{Price} * \text{Units}$$

$$\text{Var. Cost Per Unit} + \frac{\text{Fixed Costs}}{\text{Units}} = \text{Price}$$



$$\text{Break Even Price} = \text{Var. Cost Per Unit} + \frac{\text{Fixed Costs}}{\text{Units}}$$

Note that if you want Break Even Units, use this Formula:

$$\text{Break Even Units} = \frac{\text{Fixed Costs}}{\left[\text{Price} - \text{Var. Cost Per Unit} \right]}$$

Exercise: Find Breakeven Prices for Various Units Sold

Part one: Formula in Price sets Profit to Zero if Value in Units Sold Changes

| | A | B | C |
|----|---|--------------|--------------|
| 1 | Break Even Analysis (Profit = 0) | | |
| 2 | <i>What Should Price be to break even if we vary Units?</i> | | |
| 3 | | | |
| 4 | | | |
| 5 | Price | \$35 | =B8+(B10/B6) |
| 6 | Units Sold | \$100 | |
| 7 | Revenue | \$3,500 | =B5*B6 |
| 8 | Cost Per Unit (\$15) | \$15 | |
| 9 | Variable Cost | \$1,500 | =B8*B6 |
| 10 | Fixed Costs (\$2000) | \$2,000 | |
| 11 | Total Costs | \$3,500 | =B9+B10 |
| 12 | Profit | \$0 | =B7-B11 |
| 13 | | | |

1. Copy the data from the previous exercise and edit it as shown. (Formula in B5 is the only difference.)

2. Type a value in *Units Sold* (B6). *Price* should update to force *Profit* to remain at zero.

Exercise: Find Breakeven Prices for Various Units Sold

Creating the Data Table Structure (Units Sold Varies)

| | A | B | C | D | E |
|----|---|------------|---------------------|-------|-------------|
| 1 | Break Even Analysis (Profit = 0) | | | | |
| 2 | <i>What Should Price be to break even if we vary Units?</i> | | | | |
| 3 | | | | | |
| 4 | | | Units Varied | | |
| 5 | Price | \$35 | | Units | Prices Are: |
| 6 | Units Sold | \$100 | | 50 | \$35.00 |
| 7 | Revenue | \$3,500 | | 100 | |
| 8 | Cost Per Unit (\$15) | \$15 | | 150 | |
| 9 | Variable Cost | \$1,500 | | 200 | |
| 10 | Fixed Costs (\$2000) | \$2,000 | | 250 | |
| 11 | Total Costs | \$3,500 | | 300 | |
| 12 | Profit | \$0 | | 350 | |
| 13 | | | | 400 | |
| 14 | | | | 450 | |
| 15 | | | | 500 | |

1. Create the table shown here.

2. In E5 type: **=B5**

3. Type these values in D6:D15.

Exercise: Find Breakeven Prices for Various Units Sold

Creating the Data Table Structure (Units Sold Varies)

| | A | B | C | D | E |
|----|---|------------|---|-----|---------|
| 1 | Break Even Analysis (Profit = 0) | | | | |
| 2 | <i>What Should Price be to break</i> | | | | |
| 3 | | | | | |
| 4 | | | | | |
| 5 | Price | | | | \$35.00 |
| 6 | Units Sold | \$100 | | 50 | |
| 7 | Revenue | \$3,500 | | | |
| 8 | Cost Per Unit (\$15) | \$15 | | 150 | |
| 9 | Variable Cost | \$1,500 | | 200 | |
| 10 | Fixed Costs (\$2000) | \$2,000 | | 250 | |
| 11 | Total Costs | \$3,500 | | 300 | |
| 12 | Profit | \$0 | | 350 | |
| 13 | | | | 400 | |
| 14 | | | | 450 | |
| 15 | | | | 500 | |

Data Table

Row input cell:

Column input cell: \$B\$6

OK Cancel

4. Highlight D4:E15

5. From the menu click:
"Data – What If Analysis – Data Tables".

6. Set the **Column input cell** to **B6** (Units Sold). Leave Row *input cell blank*.
7. Click "OK".

Our variables will be substituted into B6 one by one to produce a corresponding Price for each. (For a one variable table you only have a column input cell.)

Exercise: Find Breakeven Prices for Various Units Sold

Find Breakeven Prices for Various Units Sold (Solution)

| | A | B | C | D | E |
|----|---|--------------|---|---------------------|-------------|
| 1 | Break Even Analysis (Profit = 0) | | | | |
| 2 | <i>What Should Price be to break even if we vary Units?</i> | | | | |
| 3 | | | | Units Varied | |
| 4 | | | | Units | Prices Are: |
| 5 | Price | \$35 | | | \$35.00 |
| 6 | Units Sold | \$100 | | 50 | \$55.00 |
| 7 | Revenue | \$3,500 | | 100 | \$35.00 |
| 8 | Cost Per Unit (\$15) | \$15 | | 150 | \$28.33 |
| 9 | Variable Cost | \$1,500 | | 200 | \$25.00 |
| 10 | Fixed Costs (\$2000) | \$2,000 | | 250 | \$23.00 |
| 11 | Total Costs | \$3,500 | | 300 | \$21.67 |
| 12 | Profit | \$0 | | 350 | \$20.71 |
| 13 | | | | 400 | \$20.00 |
| 14 | | | | 450 | \$19.44 |
| 15 | | | | 500 | \$19.00 |

Excel will produce the price that will set profit to zero for each given number of units.

Note that if you type in different Units in column D your Prices will update to give you the corresponding break even price.