Lecture 4, 5.
Cell References and Equations, Functions and Names

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Manhattan, Kansas

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Relative Cell Reference

- Excel can reference other cells within another cell
- The default cell reference.
- If you copy and paste the reference cell (or use the fill tool), the new referenced cell will be the same row and/or column distance away.

	A	B	C	D	E	F
1	Prices			Prices		
2	2018	$ 3.99			2018	2019	2020
3	2019	$ 4.99		=B2		
4	2020	$ 5.25				

	A	B	C	D	E	F
1	Prices			Prices		
2	2018	3.99		2018	2019	2020
3	2019	4.99		=B2	=C2	
4	2020	5.25				

	A	B	C	D	E	F
1	Prices			Prices		
2	2018	$3.99		2018	2019	2020
3	2019	$4.99		$3.99	$-	
4	2020	$5.25				

Absolute Cell Reference

- Locks a particular aspect of the reference: row, column or both.

- Windows users can hit F4 to create an absolute reference; MAC users can hit Apple + T

- Or manually enter a $ before the letter (column), before the number (row), or both (column and row).

	A	B	C	D	E	F
1	Prices			Prices		
2	2018	3.99		2018	2019	2020
3	2019	4.99		=$B2	=$B2	
4	2020	5.25		=$B3		
5				=$B4		

	A	B	C	D	E	F
1	Prices			Prices		
2	2018	$3.99		2018	2019	2020
3	2019	$4.99		$3.99	$3.99	
4	2020	$5.25		$4.99		
5				$5.25		

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Equations

- Excel is basically a giant calculator.
- Inputs can be either references or actual values.

For example: = 1+2+3

Or: = A1+A2+A3

Don't forget:

P-E-M-D-A-S!

Equations Hints

Math Symbols in Excel	
Parenthesis	()
Exponent	^
Multiply	*
Divide	/
Add	+
Subtract	-
Equal	=
Greater than	>
Greater than or Equal to	>=
Less than	<
Less than or Equal to	<=
Join	&

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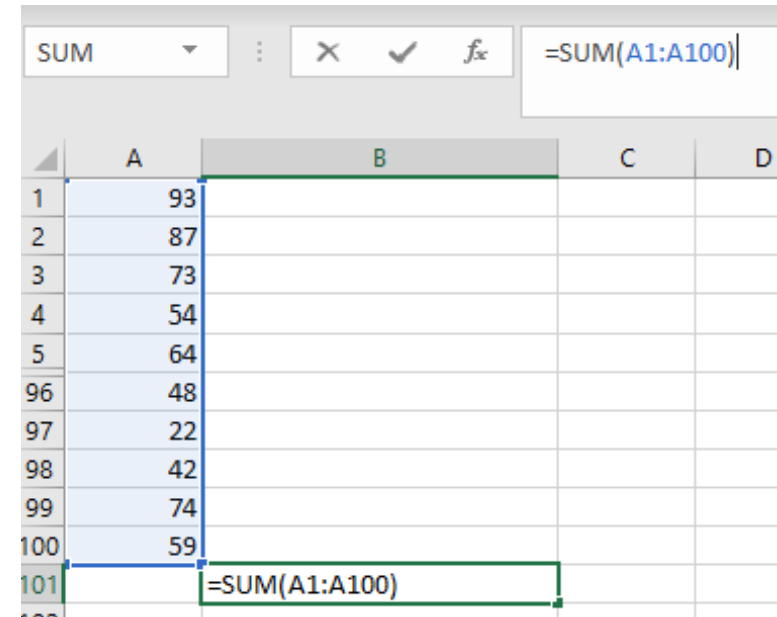
Functions

- Excel has built-in equations or logic structures to simplify processes.

- Often faster than creating an equation.

- Note: must fill in required parts of the function for it to work.

For example: =A1+A2+...+A100

can easily be shorten to: =SUM(A1:A100)

- Some other useful functions:
  (AVG, MODE, MAX, MIN, CONCAT, etc.)
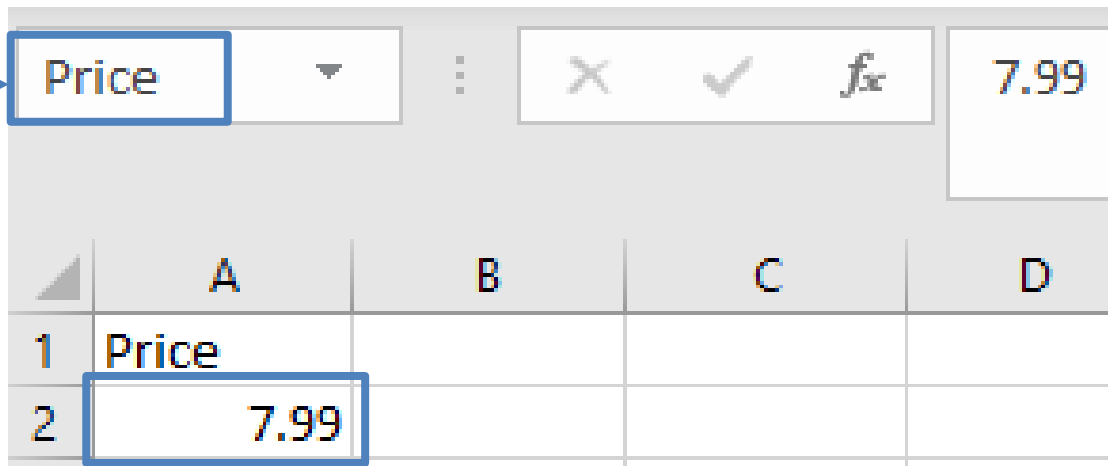
Functions

- Other built-in functions/formulas. Formulas -> Insert Function OR AutoSum.
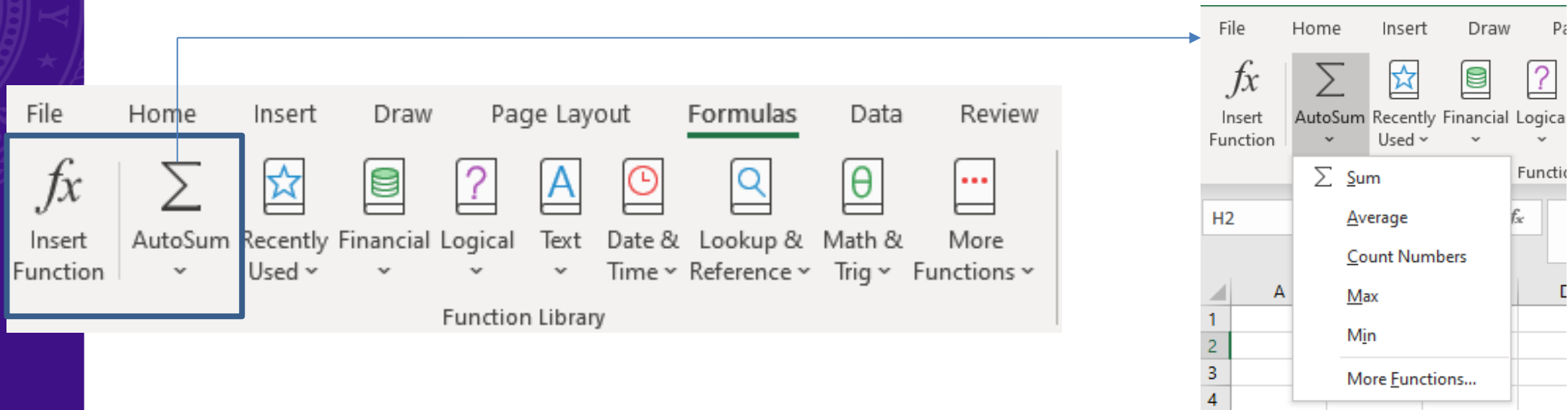
Names
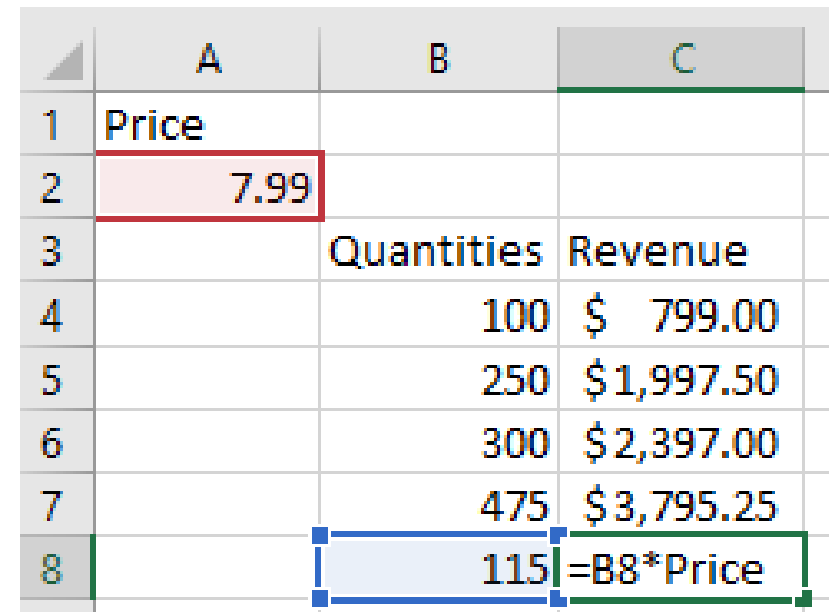
- Rather than work in alphanumeric reference in Excel, the program allows you to identify cells and arrays in your own way.

- Instead of referencing "A2" for price, you can simply rename A2 "Price" in the formula bar. Then you can just refer to Price for future calculations and/or references.


Cell A2

Names | Alternative

- Go to: Formulas -> Define Name (under the defined names section).

- Typically, the scope should be the entire workbook.

- Refers to should include the cell/array reference you are naming.
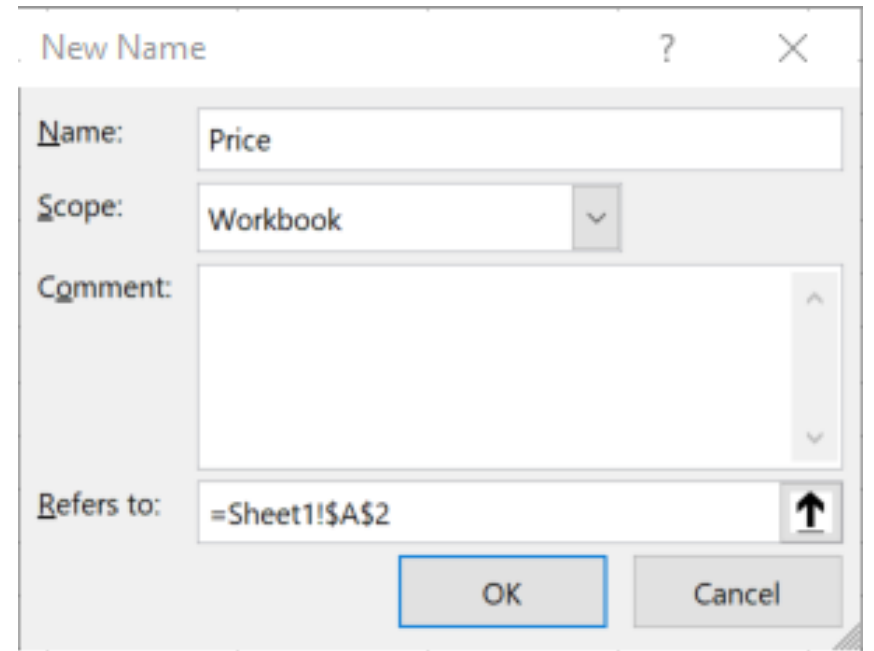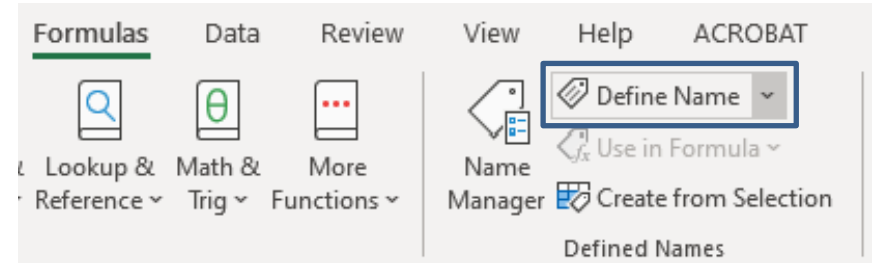
AGEC 115: Decision Tools for Ag Economics and Agribusiness

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