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Basic Mathematical Operations

ELEC1006: ENGINEERING COMPUTING

Basic Mathematical Operations & Formulas

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- ***Operators***:
  - Addition (+), Subtraction (-), Multiplication (*), and Division (/), Exponentiation (^)

- ***Order of Precedence:***
  - Basic rules: anything in parenthesis performed first; then Exponentiation, then multiplication and division; then addition and subtraction

    For example, 2*(2+3)+4^2/(1+1)

Formula

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- Formula always begin with “=“
- They can use other cells as variables.
  - For example cell E1 could be defined as “= M1 * C1 ^2”
  - Ranges of cells take the form “Start:End” (e.g. A1:B3)

- Formula can also make use of built-in functions.
  - “=SUM(A1:A10)”
  - “=AVERAGE(B2:E2)”
  - “=MIN(C1:E10) + 25”

Formula (continued)

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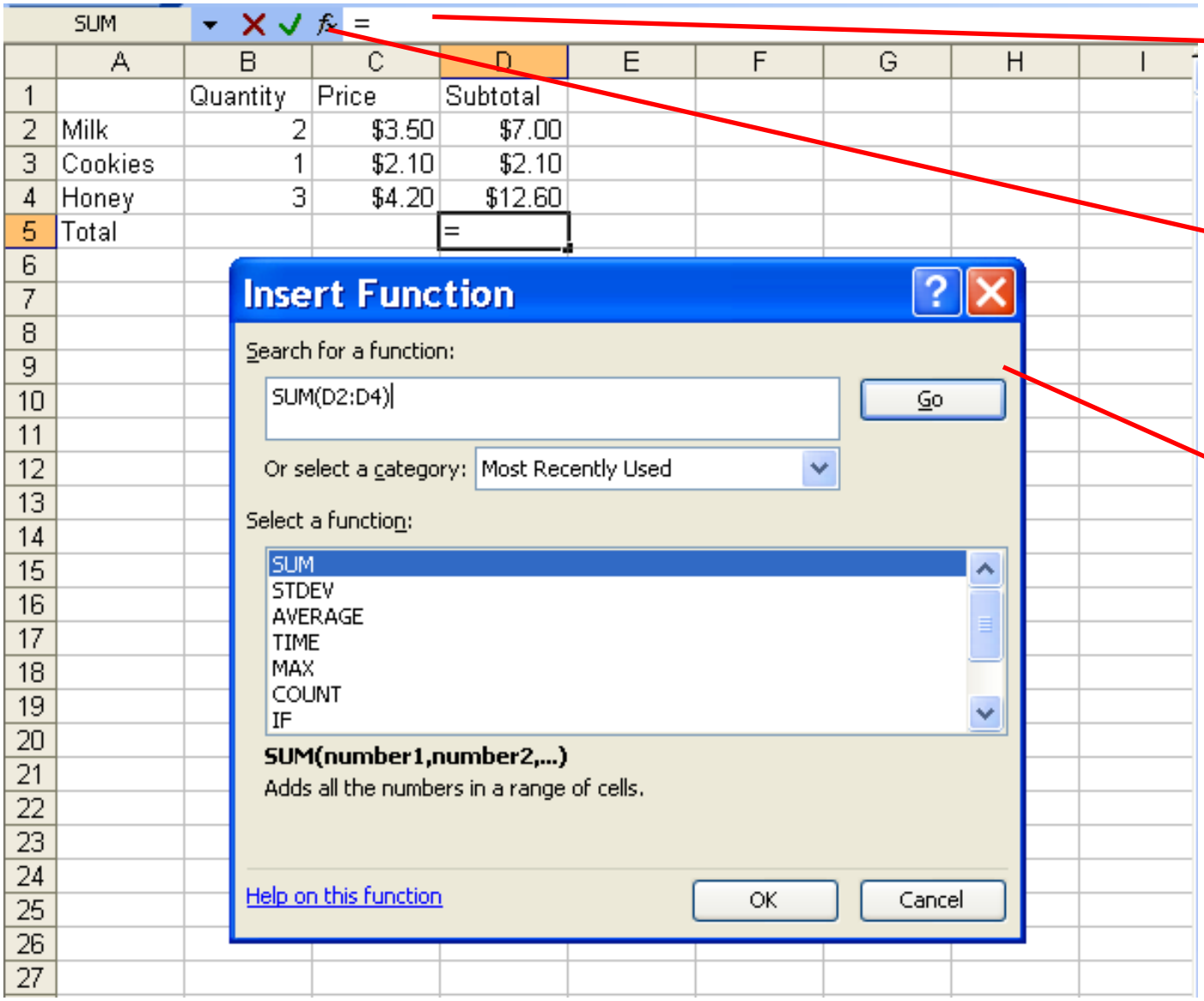

Formula bar

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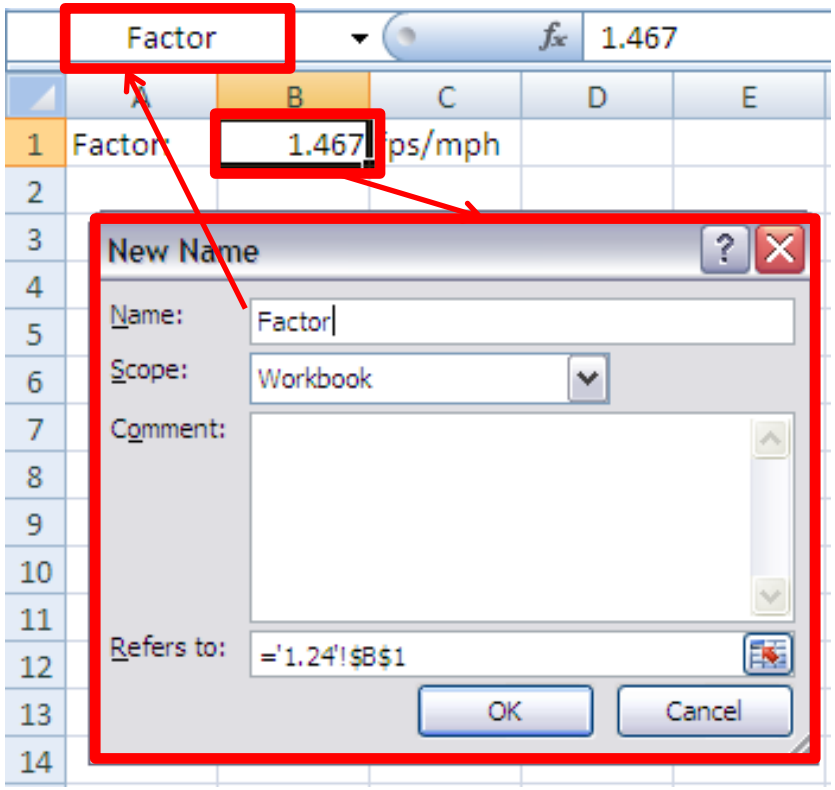
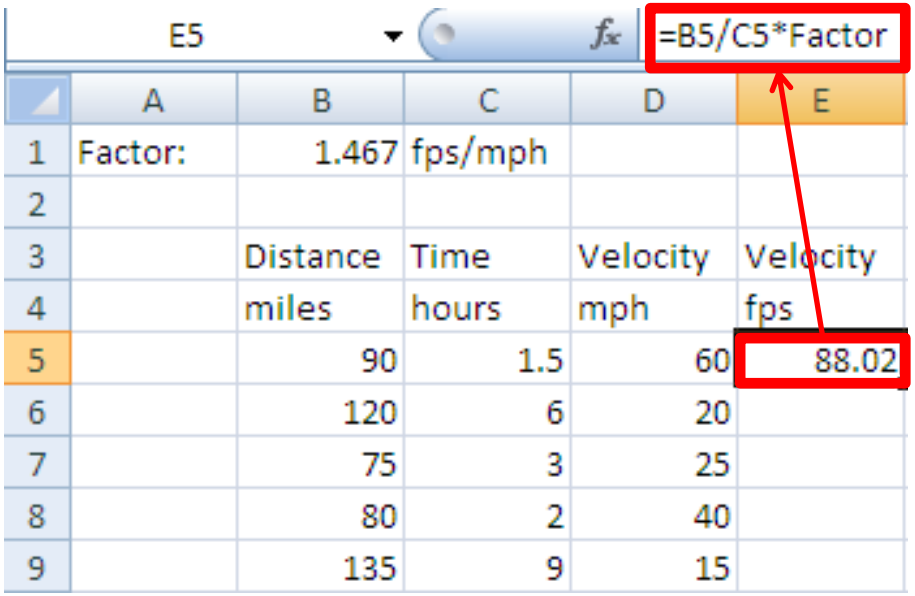
Function Menu

Named Cell





In the formula, “Factor” could be used to instead of B1

Named Cell Ranges

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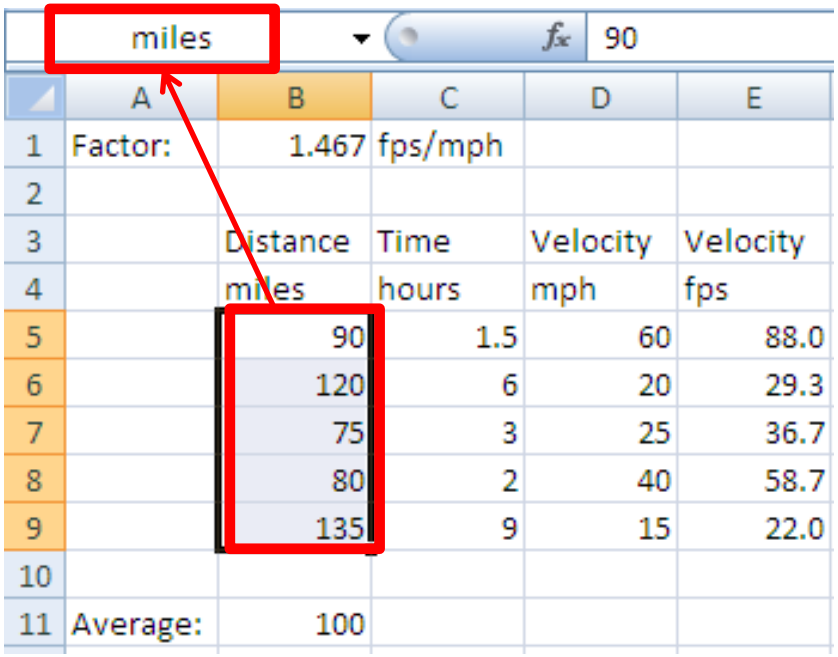
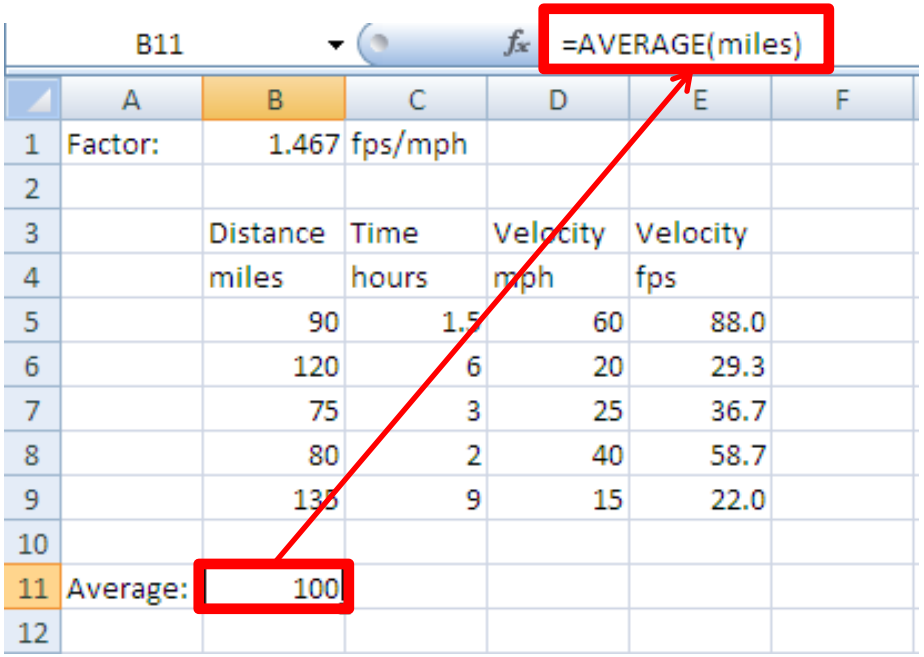
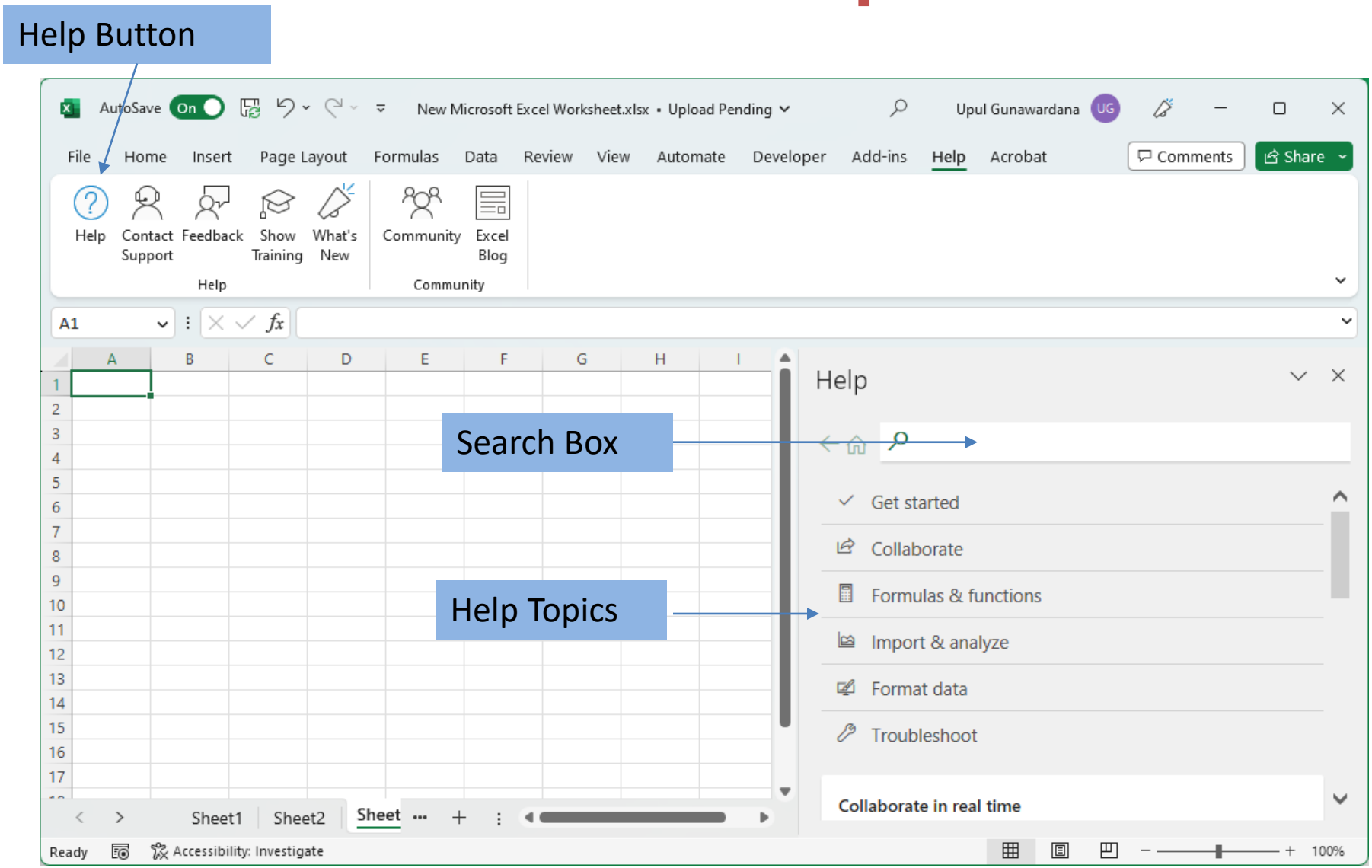




In the formula, “miles” could be used to instead of B5:B9

Excel Help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Help
Get started
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Formulas & functions
Import & analyze
Format data
Troubleshoot
Collaborate in real time
Sheet1
Sheet2
Sheet
Ready
Accessibility: Investigate
100%

More info

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- References
  - Excel online help
  - Number of good books on Excel: e.g. Larsen, R. W. (2021). *Engineering with Excel* (5th ed.). Boston: Pearson.
  - Numerous online resources
- Widely available, learn by using