Microsoft Power Tools for Data Analysis #24
Data Models: Data Types & Multiplying and Dividing
Notes from Video:

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1) **Resultant Data Type After Math Operations in DAX:**

Owen at Mr Excel Message Board:
https://www.mrexcel.com/forum/power-bi/1084721-dax-calculated-column-multiplying-order-changes-answer-new-post.html
Original Article by Marco Russo:
https://www.sqlbi.com/articles/understanding-numeric-data-type-conversions-in-dax/

Resultant Data Type After Math Operations in DAX:

DAX Data Types:
Whole Number Data Type = 0 decimals
Currency (Fixed Decimal) Data Type = 4 decimals
Decimal Data Type = 15 Decimals

		Right Number		
	Result of Adding	Whole Number	Decimal	Currency
Left Number	Whole Number	Whole Number	Decimal	Currency
	Decimal	Decimal	Decimal	Decimal
	Currency	Currency	Decimal	Currency

		Right Number		
	Result of Subtract	Whole Number	Decimal	Currency
Left Number	Whole Number	Whole Number	Decimal	Currency
	Decimal	Decimal	Decimal	Decimal
	Currency	Currency	Decimal	Currency

		Right Number		
	Result of Multiply	Whole Number	Decimal	Currency
Left Number	Whole Number	Whole Number	Decimal	Currency
	Decimal	Decimal	Decimal	Currency
	Currency	Currency	Currency	Decimal

		Denominator		
	Result of Divide	Whole Number	Decimal	Currency
Numerator	Whole Number	Decimal	Decimal	Decimal
	Decimal	Decimal	Decimal	Decimal
	Currency	Currency	Currency	Decimal

COGS = Units*Percent*Cost =
$131 * 0.953 * 8.25 = 1029.95$

COGS = Cost*Percent*Units =
$8.25 * 0.953 * 131 = 1029.96$

COGS = Units*Percent*Cost =
$131\ W * 0.953\ D * 8.25\ C = 1029.95$

COGS = Cost*Percent*Units =
$8.25\ C * 0.953\ D * 131\ W = 1029.96$

2) **Steps in Multiplying as seen in Video**

WDC		CDW	
131 W * 0.953 D = 124.843 [D]		8.25 C * 0.953 D = 7.8623 [C]	
124.843 D * 8.25 C = 1029.9548 [C]		7.8623 C * 131 W = 1029.9613 [C]	
1029.9548		1029.9613	
	Different Numbers		

3) **What to do about discrepancies?**
   i. Just like we have to pay attention to when rounding is required for a particular business calculation, we have to also pay attention to Data Types when we are creating DAX Formulas that have different Data Types and we are performing multiplication or division.