

**Excel & Business Math**  
**Video/Class Project #41**  
**Markup on Cost? Or Markup on Sell Price?**

**Topics**

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# 1) When Thinking About Markup, There Are Two Sides: Cost Side & Sell Price Side

## Cost Side

### Gel Boomerangs

Manufactures and Distributes Boomerangs



Manufacturer or Distributor

They see everything in terms of "Cost"

**Cost = Wholesale Cost = \$13.72**



**Many Synonyms for "Cost":**

Cost = Wholesale Cost = COGS = Net Cost = Wholesale Price

**The final "Cost" would include:**

Trade Discounts, Cash Discounts, Shipping & Insurance.

## Sell Price Side

### Kite Flight

Buys Kites, Boomerangs and Toys and sells to Final Customer



Retailers

They see everything in terms of "Sell Price"

**Sell Price = List Price = \$24.95**



**Many Synonyms for "Sell Price":**

Sell Price = List Price = Selling Price = Retail Price

**The final "Sell Price" would include:**


Markdowns or Markups


## 2) Both the Cost Side (Manufacturers & Distributors) & Sell Price Side (Retail Stores) Calculate the \$ Markup the Same

1

2 **Both Manufacturers & Retailers see "\$ Markup" the same way:**

3

4  \$24.95 **Sell Price = List Price = \$24.95**

5  \$13.72 each **Cost = Wholesale Cost = \$13.72**

6

7

8

9 **What is Markup?**

Sell Price	\$24.95	
Cost	\$13.72	
Markup	\$11.23	Sell Price - Cost = Markup

10

11

12

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14

15 **Many Synonyms for "Markup":**

16 Markup = \$ Markup = Margin = Gross Profit

17

18 **Both Manufacturers & Retailers see "\$ Markup" the same way:**

19

20

Sell Price	\$24.95	
Cost	\$13.72	
Markup	\$11.23	Sell Price - Cost = Markup

21

22

23

24

25 **Solve for Markup:**

Sell Price	\$24.95	
Cost	\$13.72	
Markup	\$11.23	=D27-D28

26

27

28

29

30

31

Markup = Sell Price - Cost

**Solve for Cost:**

Sell Price	\$24.95	
Cost	\$13.72	=H27-H29
Markup	\$11.23	


Cost = Sell Price - Markup

**Solve for Sell Price:**

Sell Price	\$24.95	=SUM(L28:L29)
Cost	\$13.72	
Markup	\$11.23	

Sell Price = Cost + Markup

**For One Bellen Boomerang:**



Remember, same numbers different terms:

**Video # 37: Trade Discounts**

List Price	\$24.95
Wholesale Cost	\$13.72
Trade Discount	\$11.23

### 3) For “% Markup”, Cost Side (Manufacturers & Distributors) uses Cost As Denominator and Sell Price Side (Retail Stores) uses Sell Price As Denominator

**Manufacturers & Retailers see "% Markup" Differently**

Gel Boomerangs thinks of everything in terms of **their** sell price, which is "Wholesale Cost" or "Cost"

Kite Flight sees everything in terms of **their** sell price, which is "List Price" or "Sell Price"

This means when they get to expressing things in Percentages, they each use a different "Base" or "Begin"

Gel Boomerangs, and most Manufacturers & Distributors, use "Cost" as the Denominator or "Begin"  
This means that the % expresses everything in terms of \$1 of Cost

Kite Flight, and most Retailers, use "Sell Price" as the the Denominator or "Base"  
This means that the % expresses everything in terms of \$1 of Sell Price

Sell Price  
\$24.95

Markup  
\$11.23

Cost  
\$13.72

Term:	Formula:
Begin	End Part - Change Part
Begin	End Part/Rate
Begin	Change Part/ROC
End Part	Begin * Rate
End Part	Begin * (1 + ROC)
End Part	Begin + Change Part
Rate	End Part/Begin
Rate	1 + ROC
Change Part	End Part - Begin
Change Part	Begin * ROC
ROC	(End Part - Begin)/Begin
ROC	End Part/Begin - 1
ROC	Rate - 1

Manufacturer, Gel Boomerangs uses % Markup on Cost			
	Sell Price		24.95
Begin	100% Cost		13.72
	Markup		11.23
	% Markup on Cost		0.81851

Recognize as Increase Problem.

Denominator

=E17-E18  
=E19/E18

**Check:**

	Sell Price	24.95
	% Sale Price on Cost	1.81851

=(1+E20)\*E18  
=E23/E18

% Markup on Cost = Markup/Cost  
\$0.82 of Markup/\$1 of Cost  
The meaning: For every \$1 of Cost, we add \$0.82 of Markup to get Sell Price  
Check the meaning with: End Part = Begin \* (1+ROC)  
Rate = End Part/Begin

Retailer, Kite Flight uses % Markup on Sell Price			
Base	100% Sell Price		24.95
	Cost		13.72
	Markup		11.23
	% Markup on Sell Price		0.4501

Recognize as a Part-Base-Rate Problem.

Denominator

=E27-E28  
=E29/E27

**Check:**

	Markup (Part 1)	11.23
	% Cost on Sell Price	0.5499

=E30\*E27  
=E28/E27

**Check:**

	Cost (Part 2)	13.72
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=E34\*E27

% Markup on Sell Price = Markup/Sell Price  
\$0.45 of Markup/\$1 of Sell Price  
The meaning: For every \$1 of Sell Price, \$0.45 is the Markup  
In Retail they think of it as: For every \$1 into cash register: \$0.45 is Markup, \$0.55 is Cost  
Check the meaning with: Base \* Associated Rate 1  
Part 2/Base  
Check the meaning with: Base \* Associated Rate 2



4) Meaning of “% Markup On Cost” and “% Markup On Sell Price”

## % Markup on Cost




**% Markup on Cost answers the quest**  
How much do I add to each \$1 of Cost to get List Price?

Sell Price	24.95
<b>Cost</b>	<b>13.72</b>
Markup	11.23
% Markup on Cost	<b>0.81851</b>

=D57/D56  
% Markup on Cost = Markup/**Cost**



# + \$0.82

Recognize as Increase Problem.

## % Markup on Sell Price




**% Markup on Sell Price answers the question:**  
How much of each \$1 of Sell Price is Markup?

<b>Sell Price</b>	<b>24.95</b>
Cost	13.72
Markup	11.23
% Markup on Sell Price	<b>0.4501</b>

=J57/J55  
% Markup on Sell Price = Markup/**Sell Price**



→

# \$0.45 Markup

→

# \$0.55 Cost

Recognize as a Part-Base-Rate Problem.

5) Video Example 1:

	A	B	C	D	E	F
1	If the Cost of a Baseball Glove is \$12.75 and the company uses a 72% Markup on Cost, what is the Sell Price?					
2						
3	Key: It says Markup on Cost					
4	Cost = Denominator or Begin					
5	<b>Recognize as an Increase Problem</b>					
6						
7	Item:	Baseball Glove				
8	Cost =	12.75			Begin	
9	% Markup on Cost	72.00%			ROC	
10	Sell Price	21.93		$= (1+B9)*B8$	Meaning Method	
11	Sell Price	21.93		$= B8*(1+B9)$	End Part = Begin * (1+ROC)	
12	Rate	172.00%		$= 1+B9$	Rate = 1 + ROC	
13	Markup	9.18		$= B8*B9$	Change Part = Begin * ROC	
14	Check	21.93		$= B8+B13$	Begin + Change Part = End Part	

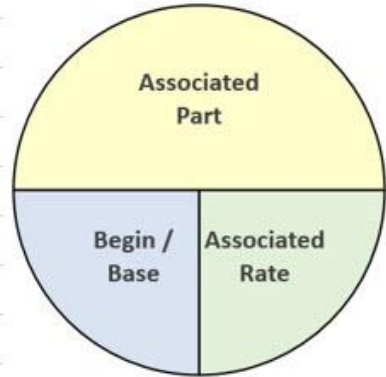
6) Video Example 2:

	A	B	C	D	E	F
1	If the Sell Price for the TV is \$799.95 and the % Markup on Sell Price is 27.5%, what was the Cost?					
2						
3	Key: It says Markup on Sell Price					
4	Sell Price = Denominator = Base					
5	<b>Recognize as a Part-Base-Rate Problem.</b>					
6						
7	Item	TV				
8	Sell Price	799.95			Base	
9	% Markup on Sell Price	27.50%			Associated Rate 1	
10	Cost	579.96375		$= (1 - B9) * B8$	Part 2 = Base * Rate 2	
11	Markup	219.98625		$= B9 * B8$	Part 1 = Base * Rate 1	
12	Check: Sell Price	799.95		$= \text{SUM}(B10:B11)$	Base = Part 1 + Part 2	
13	% Cost on Sell Price	0.725		$= B10 / B8$	Associated Rate 2 = Part 2 / Base	
14						

7) Video Example 3 & 4:

	A	B	C	D	E	F
1	If the Markup for a Lego Set is \$15 and the % Markup on Sell Price is 55%, what is the Sell Price?					
2						
3	**Note:	Base = Sell Price				
4		Recognize as Part-Base-Rate Problem				
5						
6	\$ Markup	\$15.00	Part 1			
7	% Markup on Sell Price	55.00%	Rate 1			
8	Sell Price	27.27272727	Begin = Part 1/Rate 1			
9	Cost	12.27272727	Part 2 = Begin - Part 1			
10	% Cost on Sell Price	0.45	Rate 2 = Part 2/Begin			
11						
12						
13	If the Cost for a Boomerang is \$13.72 and the % Markup on Cost is 54.99%, what is the \$ Markup?					
14						
15	**Note:	Begin = Cost				
16		Recognize as an Increase Problem				
17						
18	Cost	13.72	Begin			
19	% Markup on Cost	54.99%	ROC			
20	Markup	7.544628	Change Part = Begin * ROC			
21	Sell Price	21.264628	End Part = Begin + Change Part			
22	% Sell Price on Cost	1.5499	Rate = End Part / Begin			
23						
24						
25						



Term:	Formula:
Begin	End Part - Change Part
Begin	End Part/Rate
Begin	Change Part/ROC
End Part	Begin * Rate
End Part	Begin * (1 + ROC)
End Part	Begin + Change Part
Rate	End Part/Begin
Rate	1 + ROC
Change Part	End Part - Begin
Change Part	Begin * ROC
ROC	(End Part - Begin)/Begin
ROC	End Part/Begin- 1
ROC	Rate - 1