



Department of Local Government Finance

Cost Approach Problems and Answers # 1

2023 Level I Tutorials

Level I - Cost Approach Class Problems

For problems 1, 2, and 3, assume the base rate for the lots is \$100 per front foot.

- 1.) The standard lot for Neighborhood 1254 is 100 feet by 132 feet. Lot # 7 is 100 feet wide by 175 feet deep. What is the adjusted base rate and the estimated value of the lot?
- 2.) The standard lot for neighborhood 781 is 100 feet by 150. Lot #12 is 125 feet wide by 175 feet deep. What is the adjusted base rate and the estimated value of the lot?
- 3.) The Standard lot for Neighborhood 832 is 100 feet by 200 feet. Lot #61 is 100 feet wide by 175 feet deep. What is the adjusted base rate and the estimated value of the lot?



Cost Approach
Problem Packet-Level I Answers

For problems 1, 2, and 3, assume the base rate for the lots is \$100.

The standard lot for Neighborhood 1254 is 100 feet by 132 feet. Lot # 7 is 100 feet wide by 175 feet deep. What is the
1.) adjusted base rate and the estimated value of the lot?

Look at Table 2-7: The factor for 175 feet on the 132 foot table is 1.12. Multiply 1.12 by the base rate of \$100. The new adjusted base rate is now \$112. Multiply that by the frontage of 100 (112×100). The estimated value is \$11,200.

The standard lot for neighborhood 781 is 100 feet by 150. Lot #12 is 125 feet wide by 175 feet deep. What is the adjusted
2.) base rate and the estimated value of the lot?

From Table 2-7: The factor for 175 feet on the 150 foot table is 1.07. Multiply 1.07 by the base rate of \$100. The new adjusted base rate is then \$107. Multiply that by the frontage of 125 feet ($\$107 \times 125$). The estimated value is \$13,375 or \$13,380 which then rounds to \$13,400 to the nearest \$100.

The Standard lot for Neighborhood 832 is 100 feet by 200 feet. Lot #61 is 100 feet wide by 175 feet deep. What is the
3.) adjusted base rate and the estimated value of the lot?

From Table 2-8: The factor for 175 feet on the 200 foot table is .95. Multiply .95 by the base rate of \$100. The new adjusted base rate is \$95. Multiply that by the frontage of 100 ($100 \times \$95$). The estimated value is \$9,500.



For problems 4, 5, and 6 use Table 2-11 on Page 57, of Chapter 2

- 4.) A .70 acre tract is located in a neighborhood where 1 acre tracts are valued at \$25,000 per acre. What is the estimated value of this parcel?
- 5.) A .94 acre tract is located in a neighborhood where 1 acre tracts are valued at \$55,000 per acre. What is the estimated value of this parcel?
- 6.) A .28 acre tract is located in a neighborhood where 1 acre tracts are valued at \$40,000 per acre. What is the estimated value of this parcel?



For problems 4, 5, and 6 use Table 2-11 on Page 57, of Chapter 2

4.) A .70 acre tract is located in a neighborhood where 1 acre tracts are valued at \$25,000 per acre. What is the estimated value of this parcel?

Going to Table 2-11, the factor for .70 acres is 1.32. Multiply the factor times the rate per acre and then multiply that answer by the amount of acreage: $1.32 \times \$25,000 = \$33,000$. $\$33,000 \times .70 = \$23,100$.
Estimated Value

5.) A .94 acre tract is located in a neighborhood where 1 acre tracts are valued at \$55,000 per acre. What is the estimated value of this parcel?

Going to Table 2-11, the factor for .94 acres is 1.06. Multiply the factor times the rate per acre and then multiply that answer by the amount of acreage: $1.06 \times \$55,000 = \$58,300$. $\$58,300 \times .94 = \$54,800$.
Estimated Value

6.) A .28 acre tract is located in a neighborhood where 1 acre tracts are valued at \$40,000 per acre. What is the estimated value of this parcel?

Going to Table 2-11, the factor for .28 acres is 1.91. Multiply the factor times the rate per acre and then multiply that answer by the amount of acreage: $1.91 \times \$40,000 = \$76,400$. $\$76,400 \times .28 = \$21,400$.
Estimated Value





Cost Approach

- At this time, please go back to the Cost Approach PowerPoint and resume on slide #42.

Let's begin by reviewing how to calculate agricultural land from the example on slide 61.

For this example there is a 40 acre tract to be valued. 18.22 acres have a soil productivity factor of 0.89. 4.05 acres have a productivity factor of 0.89. 4.86 acres have a productivity factor of 0.77 and the remaining 12.87 acres have a productivity factor of 1.11. You are to arrive at the Land Value rounded to the nearest \$10. All of the acres are tillable (Land Type 4). The base rate of farmland for this example is \$1,500.



Agricultural PRC

atic		Farm / Classified Land (+)	\$56,800				
clining		Total TTV	\$56,800				
ighted	ASSESSED VALUE	Adj. Res. Land	\$0				
		Adj. Res. Imp. (+)	0				
		Ag. Excess Land (+)	\$0				
		Non-Res. Imp. (+)	0				
		Farm / Classified Land (+)	\$56,800				
		Total Av	\$56,800				

LAND DATA AND COMPUTATIONS

Land Type	Soil I.D.	Measured Acres	Productivity Factor	Base Rate	Adjusted Rate	Extended Value	Influence Factor	Land Value	Parcel Acreage		40.00
									81 Legal Drain NV	[-]	
									82 Public Road NV	[-]	
4	BKB2	18.22	0.89	\$1,500	\$1,335	\$24,320		\$24,320	83 UT Towers NV	[-]	
4	DEA	4.05	0.89	\$1,500	\$1,335	\$5,410		\$5,410	9 Homesite(s)	[-]	
4	GNB2	4.86	0.77	\$1,500	\$1,155	\$5,610		\$5,610	92 Ag. Excess Acres	[-]	
4	PM	12.87	1.11	\$1,500	\$1,665	\$21,430		\$21,430	TOTAL ACRES FARMLAND		40.00
					\$0	\$0		\$0	Farmland Value		\$56,770
					\$0	\$0		\$0	Measured Acreage		40.00
					\$0	\$0		\$0	Average Farmland Value/Acre		\$1,419.00
					\$0	\$0		\$0	VALUE OF FARMLAND		\$56,760
					\$0	\$0		\$0	Classified Land Total		
					\$0	\$0		\$0	Total Farmland / Classified Land Value		\$56,800
					\$0	\$0		\$0	Homesite(s)		[+]
					\$0	\$0		\$0	92 Ag. Excess Acres		[+]
					\$0	\$0		\$0	LAND TYPE		
					\$0	\$0		\$0	F-Front Lot	3-Undeveloped Land	8-Ag Support Lar
					\$0	\$0		\$0	R-Rear Lot	4-Tillable Land	81-Legal Ditch



For problems 7, 8, and 9, assume a Homesite value of \$10,000, an excess acreage value of \$2,500 per acre and a farmland value of \$1,500 per acre with a productivity factor of 1.05.

- 7.) A residential parcel contains 4 acres and is vacant. What is the estimated value of this parcel?
- 8.) A residential parcel contains 10 acres and has a dwelling. Seven of the acres are being farmed. What is the estimated value of this parcel?
- 9.) A residential parcel contains 5 acres and has no dwelling. It is being farmed until construction on a new home starts. What is the estimated value of this parcel?



For problems 7, 8, and 9, assume a Homesite value of \$10,000, an excess acreage value of \$2,500 per acre and a farmland value of \$1,500 per acre with a productivity factor of 1.05.

7.) A residential parcel contains 4 acres and is vacant. What is the estimated value of this parcel?

Since this parcel is vacant, you multiply the excess acreage rate of \$2,500 by the number of acres. ($\$2,500 \times 4$). The estimated value of the parcel is \$10,000.

8.) A residential parcel contains 10 acres and has a dwelling. Seven of the acres are being farmed. What is the estimated value of this parcel?

	A	B	C	D	E				
Land Type	Soil ID	Meas Acres	Prod Factor	Base Rate	Adj Rate	Ext Value	Infl Factor	Land Value	
4	RAH 1	7	1.05	\$1,500	\$1,575	\$11,030		\$11,030	
								\$0	
1 acre for homesite		1			\$10,000	\$10,000		\$10,000	
2 acres excess		2			\$2,500	\$5,000		\$5,000	
GRAND TOTAL								\$26,030	\$26,000

B TIMES C EQUALS D

A TIMES D EQUALS E

9.) A residential parcel contains 5 acres and has no dwelling. It is being farmed until construction on a new home starts. What is the estimated value of this parcel?

Land Type	Soil ID	Meas Acres	Prod Factor	Base Rate	Adj Rate	Ext Value	Infl Factor	Land Value	
4	RAH1	5	1.05	\$1,500	\$1,575	\$7,875		\$7,880	
								\$0	
Homesite						\$0		\$0	
Excess Acres						\$0		\$0	
GRAND TOTAL								\$7,880	\$7,900



**Level I - Cost Approach
Practice Problem # 2**

Farm Ground Pricing

You are given the following information: You are valuing a 183 acre tract. There are 7 acres with a productivity factor of 1.04. 10 acres with productivity factor of .91. 30 acres with a productivity factor of 1.07. 4 acres with a productivity factor of .96 and the remaining 132 acres has a productivity factor of 1.02. You are to arrive at the Land Value rounded to the nearest \$10. All of the acres are tillable. The base rate of farmland for this problem is \$1,500.

Land Type	Soil I.D.	Measured Acres	Productivity Factor	Base Rate	Adjusted Rate	Extended Value	Influence Factor	Land Value	
Supplemental Card			Supplemental Card						
Measured Acreage			LAND VALUE						



Level I - Cost Approach
Practice Problem # 2 Answer

Farm Ground Pricing

	A	B	C	D	E		F
Land Type	Measured Acres	Productivity Factor	Base Rate	Adjusted Rate	Extended Value	Influence Factor	Land Value
4	7.00	1.04	\$1,500	\$1,560	\$10,920		\$10,920
4	10.00	0.91	\$1,500	\$1,365	\$13,650		\$13,650
4	30.00	1.07	\$1,500	\$1,605	\$48,150		\$48,150
4	4.00	0.96	\$1,500	\$1,440	\$5,760		\$5,760
4	132.00	1.02	\$1,500	\$1,530	\$201,960		\$201,960
Supplemental Card						Supplemental Card	
Measured Acreage	183.00					LAND VALUE	\$280,440

B TIMES C EQUALS D
A TIMES D EQUALS E

F IS ROUNDED TO THE
NEAREST \$10.00

