

2022 Level II Cost Approach Problems
Class Problems 1 through 6 Answers

Problem 1

You have a commercial building. There is a total of 5,200 square feet of which 3,900 square feet has a wall height of 16 feet. The

3,900 sq ft divided by 5,200 sq ft = 75%	times 16 ft	12	
1,300 sq ft divided by 5,200 sq ft = 25%	times 14 ft	3.5	
100%		<u>15.5</u>	Rounded 16 Feet

Problem 2

You have a commercial building that measures 200 feet by 500 feet. What is the PAR?

Perimeter equals 200 + 200 + 500 + 500 = 1,400			
Area equals 200 times 500 = 100,000			
Perimeter to Area Ratio = Perimeter of		1,400	
divided by the area of		100,000	0.014
times 100			1.4
rounded to nearest whole			1

Problem 3

You have a structure that has 2,500 square feet of which 1,500 is general office. The remaining 1,000 square feet is utility storage. Wall Type 1 and the building measures 100 by 25. What is the adjusted base rate using GCM Schedule.

Perimeter equals 100 + 100 + 25 + 25 = 250			
Area equals 100 times 25 = 2,500			
Perimeter to Area Ratio = Perimeter of		250	
divided by the area of		2,500	0.1
times 100			10
rounded to nearest whole			10
number			
Usage 1,500 sq feet is general office	1,500/2,500 =	60%	
1,000 sq feet is utility storage	1,000/2,500 =	40%	
2, 500 total sq feet.			
Go to Appendix G, Page 12 and look for general office		\$127.59	60% \$76.55
Go to Appendix G, Page 12 and look for utility storage		\$75.83	40% \$30.33
			\$106.88

Problem 4

You have a fire resistant building with exterior walls of brick. It measures 100 feet by 180. Twenty five percent is industrial office and the wall height is 12 feet. The remaining area is light warehouse with a wall height of 18 feet. What is the average wall height? What is the adjusted base rate?

Perimeter equals 100 + 100 + 180 + 180 = 560				
Area equals 100 times 180 = 18,000				
Perimeter to Area Ratio = Perimeter of	560			
divided by the area of	18,000	0.0		
times 100		3.1		
rounded to nearest whole				
number				3
25% is industrial office times the wall height of 12 feet	3			
75% is light warehouse times the wall height of 18 feet	13.5			
Average wall height is		16.5		Rounded 17

Do we have to make a wall height adjustment?

Industrial Office			\$77.07		
plus wall height adj. 5 feet times \$1.39	\$1.51		\$7.55		
			\$84.62	25%	\$21.16
Light Warehouse			\$48.48		
less wall height adj. 1 foot times \$.80	0.86		-\$0.86		
			\$47.62	75%	\$35.72
Adjusted base rate					\$56.88

Problem 5

You have a structure with 3,000 square feet of which 1,800 is fire resistant. The remainder is Fire Proof Steel. PAR 8, wall type 1. Building is a bank. What is the amount of adjustment needed to account for the Fire Proof Steel?

1,200 divided by 3,000 is 40%				
Adj for FP Steel is \$8.15	\$9.28			
Net adjustment then is \$9.28 times 40% or				\$3.71

Problem 6

You have a parking lot containing 20,000 square feet of 2" over 8" base of asphalt paving. It has a grade of C-1 and is in average condition. It is located in Dearborn County. It was put down in 1990.

Additionally, you have 200 linear feet of metal guardrail surrounding the parking lot. It is in average condition, C grade and also installed in 1990.

What is the total True Tax Value of this property?

Paving from page 27 of App G Book 2.

20,000 square feet is	\$2.57			
add for 3" base	<u>\$0.40</u>			
Sub total	\$2.97			
Adjust for grade	<u>95%</u>			
Adjusted subtotal	\$2.82			
Adjust for Location Multiplier	<u>91%</u>			
Adjusted base rate		\$2.57		
Square feet		<u>20,000</u>		
RCN			\$51,400	
Depreciation			<u>80%</u>	
True Tax Value			\$10,280	<u><u>\$10,300</u></u>

Guardrail:

200 linear feet				
Rate	#####			
Location Multiplier	<u>91%</u>	\$21.62		
Linear feet		<u>200</u>		
Replacement Cost New			\$4,320	
Depreciation			<u>80%</u>	
True Tax Value			\$860	<u><u>\$900</u></u>
Total True Tax Value of Improvements				<u><u>\$11,200</u></u>