

Numerical RAM Problems

Approximate the area under the graph of f from $x = a$ to $x = b$ using the given number of rectangles and using each of the approximation methods:

- a) Right RAM
- b) Left RAM
- c) Midpoint Ram

Problem 1: Use 4 rectangles

x	0	.5	1	1.5	2	2.5	3	3.5	4
y	1	1.75	3	4.75	7	9.75	13	16.75	21

Problem 2: Use 4 rectangles

x	0	1	2	3	4	5	6	7	8
y	10	18	24	28	30	31	27	23	17

Problem 3: Use 5 rectangles

x	0	.2	.4	.6	.8	1.0	1.2	1.4	1.6	1.8	2.0
y	20	13.4	9.1	6.2	4.1	2.6	1.8	1.2	.8	.5	.3

Problem 4: Use 4 rectangles

x	1	1.25	1.5	1.75	2.0	2.25	2.5	2.75	3.0
y	3.333	3.077	2.857	2.667	2.5	2.353	2.222	2.105	2

Answers

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|--------------|----------|----------|
| 1. a) 44 | b) 23 | c) 33 |
| 2. a) 196 | b) 182 | c) 200 |
| 3. a) 6.44 | b) 14.32 | c) 9.56 |
| 4. a) 4.7895 | b) 5.456 | c) 5.101 |