Scenario

Samantha is a recent college graduate who has just landed her first job. With her newfound income, she decides it's time to purchase a reliable car to commute to work and run errands. After researching her options, Samantha finds a used car that fits her needs priced at $20,000.

However, Samantha doesn't have enough savings to purchase the car outright. Instead, she decides to take out a loan to finance the purchase. After reviewing her options, she settles on a loan with the following terms:

Loan Term: 4 years

APR: 6% compounded monthly

Excited about her new purchase, Samantha is eager to calculate her monthly payments to ensure they fit within her budget. She knows that understanding her financial commitments is crucial to maintaining her financial stability as she embarks on this new chapter in her life.

Questions:

What will be Samantha's monthly payment for the car loan?

After Samantha secures a loan with a term of 4 years and an APR of 6% compounded monthly to purchase a used car priced at $20,000, what would be the breakdown of her monthly payments over the loan term, including the interest and principal portions, as well as the remaining loan balance after each payment?

Amortization Schedule Construction

Loan Amount	$20,000
APR (Monthly compounding)	6%
Loan Term (in years)	4

Monthly Payment

	Formula
Interest	=IPMT($C$6/12,B13,$C$7*12,-$C$4)
Principal	=PPMT($C$6/12,B13,$C$7*12,-$C$4)
Total Payment	=D13+C13
Loan Balance	=F12-D13

Period (in months)	Interest	Principal	Total Payment	Loan Balance
0				$20,000
1	$100.00	$369.70	$469.70	$19,630.30
2	$98.15	$371.55	$469.70	$19,258.75
3	$96.29	$373.41	$469.70	$18,885.34
4	$94.43	$375.27	$469.70	$18,510.07
5	$92.55	$377.15	$469.70	$18,132.92
6	$90.66	$379.04	$469.70	$17,753.88
7	$88.77	$380.93	$469.70	$17,372.95
8	$86.86	$382.84	$469.70	$16,990.12
9	$84.95	$384.75	$469.70	$16,605.37
10	$83.03	$386.67	$469.70	$16,218.69
11	$81.09	$388.61	$469.70	$15,830.09
12	$79.15	$390.55	$469.70	$15,439.54
13	$77.20	$392.50	$469.70	$15,047.03
14	$75.24	$394.47	$469.70	$14,652.57
15	$73.26	$396.44	$469.70	$14,256.13
16	$71.28	$398.42	$469.70	$13,857.71
17	$69.29	$400.41	$469.70	$13,457.30
18	$67.29	$402.41	$469.70	$13,054.88
19	$65.27	$404.43	$469.70	$12,650.46
20	$63.25	$406.45	$469.70	$12,244.01
21	$61.22	$408.48	$469.70	$11,835.53
22	$59.18	$410.52	$469.70	$11,425.01
23	$57.13	$412.58	$469.70	$11,012.43
24	$55.06	$414.64	$469.70	$10,597.79
25	$52.99	$416.71	$469.70	$10,181.08
26	$50.91	$418.80	$469.70	$9,762.28
27	$48.81	$420.89	$469.70	$9,341.40
28	$46.71	$422.99	$469.70	$8,918.40
29	$44.59	$425.11	$469.70	$8,493.29
30	$42.47	$427.23	$469.70	$8,066.06
31	$40.33	$429.37	$469.70	$7,636.69
32	$38.18	$431.52	$469.70	$7,205.17
33	$36.03	$433.67	$469.70	$6,771.50
34	$33.86	$435.84	$469.70	$6,335.65
35	$31.68	$438.02	$469.70	$5,897.63
36	$29.49	$440.21	$469.70	$5,457.42
37	$27.29	$442.41	$469.70	$5,015.01
38	$25.08	$444.63	$469.70	$4,570.38
39	$22.85	$446.85	$469.70	$4,123.53
40	$20.62	$449.08	$469.70	$3,674.45
41	$18.37	$451.33	$469.70	$3,223.12
42	$16.12	$453.58	$469.70	$2,769.54
43	$13.85	$455.85	$469.70	$2,313.68
44	$11.57	$458.13	$469.70	$1,855.55
45	$9.28	$460.42	$469.70	$1,395.13
46	$6.98	$462.72	$469.70	$932.40
47	$4.66	$465.04	$469.70	$467.36
48	$2.34	$467.36	$469.70	$0.00