Budget Category	Fixed Costs	Variable Costs
Operation and Maintenance	$205,000	$300,000
Debt Service	$50,000	-
Increased Reserve Requirement	$35,000	-
Total	$290,000	$300,000

Instructions: Refer to the *Village of Sunflower Information Sheet* and answer the questions below. Keep in mind, the community is only collecting 94% of what is being billed.

1. Calculate a monthly base charge for each account to recover fixed costs.
(Hint: Fixed cost / Total accounts / 12 months per year).

Total fixed cost: **$290,000** / Total accounts: **1,000** = **$290** per year per customer / 12 months = **$24.17** / 0.94 = **$25.71** new monthly charge after delinquency rate for nonpaying customers applied

2. Calculate a uniform volume charge per 1,000 gallons to recover variable costs.
(Hint: Variable costs / [Water metered / 1,000]).

Variable cost: **$300,000** / Water Metered **140,000,000**/ 1000 = **140,000** per kgal = **$2.14** / 0.94 = **$2.28** new charge per 1,000 gallons after delinquency rate for nonpaying customers applied

3. You are presently billing a base charge of $20 per month and a volume charge of $2 per 1,000 gallons. What will be the new monthly charge for users at 5,000 gallons per month and 20,000 gallons per month? Use answers from Problems 1 and 2. How do these compare to the cost per month under the old rates? Answer these questions by completing the table below.
(Hint: Volume charge per 1,000 gallons X [Usage / 1,000 gallons] + Base charge).

	Old Rate: Bill/Month	New Rate: Bill/Month	$ Increase	% Increase
5,000 gal	$30.00	$37.11	$7.11	23.70%
20,000 kgal	$60.00	$71.31	$11.31	18.85%

4. Calculate the affordability index for the new charges based on 5,000 gallons per month usage and the community's median household income. What is the affordability index for a family of two making $19,000 in annual income?
(Hint: Annual water cost / annual income).

a) 5,000 gal New Bill/Month Rate x 12 months = **$445.32** per year (Annual Rate)

b) Annual Rate / Median income of **$41,000** = **1.09** percent of annual income

c) Annual Rate / $19,000 = **2.34** percent of annual income