

Name: _____

Date: _____

Activity 2: The Amortization Formula and the Price of Your Car - KEY

$$A = \frac{i \times P \times (1 + i)^n}{(1 + i)^n - 1}$$

1. Calculate the monthly payment and total cost of a car with the following information:

Principal (cost of car): \$15,500

Annual interest rate: 2.0% compounded monthly

Loan term: 5 years (60 months)

$$A = \frac{.02/12 \times \$15,500 \times (1 + .02/12)^{60}}{(1 + .02/12)^{60} - 1}$$

Monthly payment \$271.68

Total cost of the car \$16,300.80

2. Calculate the monthly payment and total cost of a car with the following information:

Principal (cost of car): \$30,000

Annual interest rate: 4.7% compounded monthly

Loan term: 6 years (72 months)

Monthly payment \$478.98

Total cost of the car \$34,486.56

3. Calculate the monthly payment and total cost of YOUR car purchase with the following information:

Principal (cost of car): \$20,000

Annual interest rate: _____ compounded monthly

Loan term: 5 years (60 months)

Monthly payment (depends on student rate)

Total cost of the car (depends on student rate)

4. Calculate the monthly payment and total cost of YOUR car purchase with the following information:

Principal (you select car): _____

Annual interest rate: _____ (use second survey)

Loan term: 5 years (60 months)

Monthly payment (depends on student rate and car selection)

Total cost of the car (depends on student rate and car selection)