Name:

Financing a Car

Whether you decide to buy a used car or a new car, you may find it necessary to pay for your purchase by *instalments*.



Bette buys a used car from a dealer for a total price of \$4350 plus sales tax at 7%. She makes a down payment of \$1000 and agrees to make 24 monthly payments of \$190 to clear the debt.

There are several questions that Bette should consider before she signs the contract with the dealer.

What is the total cash price?

\$4350 + 7% of \$4350

= \$4350 + 304.50

= \$4654.50

What is the instalment price?

Down payment + Instalment payments

 $= $1000 + ($190 \times 24)$

= \$1000 + \$4560

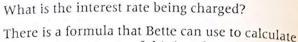
= \$5560

What is the finance charge?

Instalment price – Cash price \$5560 – \$4654.50

= \$905.50





the true interest rate of this instalment purchase.



r is the true interest rate per year;

N is the number of payment intervals per year; C is the finance charge (total instalment price minus cash price);

P is the principal (cash price minus down payment);

n is the number of payments.

First find the values of the variables to substitute into the formula.

$$N = 12$$

und there are 42 prooffs at $C = \$905.50$
 $P = \text{Cash price} - \text{Down payment}$
 $= \$4654.50 - \1000
 $= \$3654.50$
 $n = 24$

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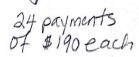
Now substitute.

$$= \frac{200NC}{P(n+1)}\%$$

$$= \frac{(200)(12)(905.50)}{(3654.50)(24+1)}\%$$

$$= 23.8\%$$

The true rate of interest on the purchase is 23.8%.



Exercise

- B 1. For each used car shown below, 15% determine:
 - the cash price (sales tax is at);
 - · the instalment price;

• the finance lo charge.

(a)

(b)

EXCELLENT CONDITION OR PAY \$800 DOWN PLUS 36 MONTHLY PAYMENTS OF \$162.55

(c)

(d)

JUST WHAT YOU'VE OR \$1000 DOWN PLUS \$242.97 A MONTH FOR THREE YEARS ask for Louie.

- 2. Calculate the true interest rate for each part of Question 1.
- 3. Ruth buys a used car for \$5200 with sales tax at 3%. She pays \$2000 down, then pays off the rest of the debt by making 18 monthly payments of \$246.21.

(a) Determine the finance charge.

(b) Calculate the true rate of interest Ruth is paying.

- 4. Judith purchases a new car whose sticker price is \$8714.65, plus sales tax at 響%. She makes a down payment of 30% followed by 24 monthly payments of \$313.90.
 - (a) Calculate the finance charge.
 - (b) What rate of interest is Judith paying?
- 5. José purchases a new car with the following options.
 - PDI and freight \$345.09
 - Automatic transmission 483.95

 - Power steering 250,60
 Sunroof 367, 80
 Radio option ③ 334, 45
 Wire wheel covers and locks 235,50
 - Extended warranty A 375.

(a) Use the base price and Options List Page to determine the total cash

price of the car (5% tax).

(b) If José puts \$3800 down, and pays the remainder in 36 monthly payments of \$270.57, calculate the true rate of interest he is paying.