

Making Estimates

About Estimation

To estimate means to find an approximate answer. One way to estimate is to use rounded numbers that make computations easier.

Numbers can be rounded to different place values.

To the nearest . . .	ten	hundred	thousand
\$16,249 rounds to	\$16,250	\$16,200	\$16,000
\$194 rounds to	\$190	\$200	0
48 rounds to	50	0	0

Carin is planning to buy a used car that is on sale for \$16,249. The dealer is offering 0% financing for a 4-year loan. The salesperson tells Carin that, with a down payment of \$1,000, her loan payment will be *about \$194 per month for 4 years*. Use your own estimate to decide which phrase best describes the salesperson's estimate of Carin's monthly payment.

- ① very close to the actual value
- ② unreasonably high
- ③ unreasonably low
- ④ exactly correct
- ⑤ not enough information is given

Solution

Step 1

Estimate the amount Carin will owe after making the down payment.

Car price = \$16,249 \approx \$16,000 [rounded to the nearest \$1,000]

Amount owed after down payment \approx \$16,000 - \$1,000 = **\$15,000**

Step 2

Estimate the number of payments Carin will make in 4 years.

Number of payments (months) = $12 \times 4 = 48 \approx$ **50 months**

Step 3

To estimate Carin's monthly payment, divide \$15,000 by 50:

$\$15,000 \div 50 \text{ months} =$ **\$300 per month**

The salesperson's estimate of \$195 per month is **unreasonably low**.

A reasonable estimate is \$300 per month.