

Answer on Question #74966 – Math – Financial Math

Question:

Ken just bought a house. He made a \$15000 down payment and financed the balance with a 30 year home mortgage loan with an annual interest rate of 6.3% compounded monthly. His monthly mortgage payment is \$938. What was the selling price of the house?

Solution:

$$\text{Down Payment} = DP = \$15,000$$

$$r = 0.063 = 6.3\%$$

$$T = 30 \text{ years}$$

$$n = 12 \text{ (monthly payment)}$$

$$PMT = \$938$$

Based on the given information, we can find the principal and then the selling price of the house:

$$\begin{aligned} \text{Selling Price} &= \text{Principal} + \text{Down Payment} = \\ &= \frac{PMT \cdot \left(\left(1 + \frac{r}{n} \right)^{n \cdot T} - 1 \right)}{\frac{r}{n} \cdot \left(1 + \frac{r}{n} \right)^{n \cdot T}} + DP = \frac{\$938 \cdot \left(\left(1 + \frac{0.063}{12} \right)^{12 \cdot 30} - 1 \right)}{\frac{0.063}{12} \cdot \left(1 + \frac{0.063}{12} \right)^{12 \cdot 30}} + \$15,000 = \\ &= \$151,541.40 + \$15,000 = \$166,541.40. \end{aligned}$$

Answer: the selling price of the house is \$166,541.40.

Answer provided by <https://www.AssignmentExpert.com>