1. Clare wants to buy a used wide-screen TV that sells for $2,000 cash. She will make a
down payment of $1,000 and then six monthly payments of $200.

   a) What is the full installment price?

   \[ 1000 + (6 \times 200) = 2200 \]

   b) How much interest does Clare pay?

   \[ 2200 - 2000 = 200 \]

   c) Calculate the annual interest rate.

   \[ \text{Time is 6 months = 0.5 year} \]

   \[ \frac{200}{2000 \times 0.5} \times 100 = 20\% \]

2. Lauren has his heart set on a new GPS that will cost him $325 if he pays cash and $400 if
he pays by installments.

   a) If the down payment is $50, how much will he pay in each of 12 monthly
   payments?

   \[ \frac{400 - 50}{12} = \frac{350}{12} = \$29.17 \]

   b) How much interest does Lauren pay?

   \[ 400 - 325 = 75 \]

   c) What is the annual interest rate on this purchase?

   \[ \frac{75}{325} \times 100 = 23.1\% \]
Store Promotion and Installment Plan Questions

3. Jake is looking to buy a used car that will cost him $10,000. He will make a down payment of $5,000 and then twenty-four payments of $225.

a) What is the full installment price?

\[ 5000 + (24 \times 225) = \$10,400 \]

b) How much interest does Jake pay?

\[ 10,400 - 10,000 = \$400 \]

c) Calculate the annual interest rate.

\[ \frac{400 \times 100}{16000} = 4\% \]

4. Vanessa wants to buy a new sewing machine that sells for $2,000 cash. She plans to make a down payment of $1000 and then twelve monthly payments of $95.

a) What is the full installment price?

\[ 1000 + (12 \times 95) = \$2140 \]

b) How much interest does Vanessa pay?

\[ 2140 - 2000 = \$140 \]

c) Calculate the annual interest rate.

\[ \frac{140 \times 100}{2600} = 7\% \]
5. Armando’s motorcycle needs a new motor. It will cost him $700 if he pays cash and $825 if he pays by installments.

   a) If the down payment is $275 on the motor, how much will he pay in each of 12 monthly payments?

      \[
      \frac{825 - 275}{12} = \frac{550}{12} = \$45.83
      \]

   b) How much interest does Armando pay?

      \[
      825 - 700 = \$125 \text{ interest}
      \]

   c) What is the annual interest rate on this purchase?

      \[
      \frac{125}{700} \times 100 = 17.86 \%
      \]

6. The Sharps want to finance a cruise to Alaska for $2,800. The offer is for no money down with twenty-four payments of $150.

   a) What is the full installment price?

      \[
      150 \times 24 = \$3600
      \]

   b) How much interest do the Sharps pay?

      \[
      3600 - 2800 = \$800
      \]

   c) Calculate the annual interest rate.

      \[
      \frac{800 \times 100}{2800} = 28.57 \%
      \]
7. Ana is moving into her own apartment and wants to purchase a Home Entertainment Center. The cost of the HEC is $1,350 if paid in cash and $1,495 if she pays in installments.

If the down payment is $450, how many months will it take her to pay off the installment loan if she pays $44 per month?

\[ 1495 - 450 = 1045 \text{ (left to pay)} \]
\[ \text{Payment amount: } 44 \]
\[ 23.75 \text{ so } 24 \text{ months} \]

Last payment will be a bit less than $44.

\[ 23 \times 44 = 1012 \]
\[ +33 \]
\[ \frac{1045}{44} \]

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