Deanna decorates cakes for special occasions and sells them to earn money. She charges $25 for each cake. Her yearly cost for supplies is $230. In addition to that, the ingredients for each cake cost $5. Write an expression for her yearly profit if she sells \( x \) cakes. What is her profit in a year in which she sells 180 cakes?

A baby grand piano purchased in 1975 for $3,500 is worth $9,220 in 2001. Write a formula for the value, \( V \), of the piano after \( t \) years. When was the piano worth $5,700?

The value of a computer depreciates linearly (and quickly). If a computer sold for $2,800 three years ago and is now only worth $1,000, write a formula for the value \( V \), of the computer in terms \( t \), the number of years after purchase. What will the value of the computer be when it is 5 years old?

Answers to practice problems – lesson #25

\[
P = 25x - (230 + 5x) = 20x - 230
\]

\[
P(180) = (20)(180) - 230 = 3370
\]

\[
9220 = 3500 + 26x
\]
\[
x = 220
\]

\[
V(t) = 3500 + 220t
\]

\[
5700 = 3500 + 220t
\]
\[
t = 10
\]

\[
1000 = 2800 - 3x
\]
\[
x = 600
\]

\[
V(t) = 2800 - 600t
\]

\[
V(5) = -200 \text{ ie, no value}
\]