

MA 152 Lesson # 25 Practice Problems

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

$$P = 25x - (230 + 5x)$$

$$= 20x - 230$$

$$P(180) = (20)(180) - 230 = 3370$$

$$9220 = 3500 + 26x$$

$$x = 220$$

$$V(t) = 3500 + 220t$$

$$5700 = 3500 + 220t$$

$$t = 10$$

$$1000 = 2800 - 3x$$

$$x = 600$$

$$V(t) = 2800 - 600t$$

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