

The cost of renting tuxes for the Choral Society's formal is \$20 down, plus \$88 per tux. Express the cost C as a function of x , the number of tuxedos rented. Use your function to answer the following questions.

Solution: Since it costs \$20 regardless of how many tuxes you rent, this is the fixed cost. Since it's \$88 per tux, this is the marginal cost. The cost function is thus $C(x) = 88x + 20$.

a) What is the cost of renting 2 tuxes?

Solution: Plug 2 into the cost function to find the cost to rent 2 tuxes:

$$C(2) = 88(2) + 20 = 196$$

So it costs \$196 to rent 2 tuxes.

b) What is the cost of the 2nd tux?

Solution: The cost of just the 2nd tux (not the cost to rent 2 tuxes!) is \$88.

c) What is the cost of the 4098th tux?

Solution: The cost of the 4098th tux is \$88. (Note that every tux, individually, costs \$88 to rent).

d) What is the variable cost? What is the marginal cost?

Solution: The variable cost is $88x$. The marginal cost is \$88.