MS Algebra: 2.5.4

Warm-up

Goal: I can represent linear functions with tables, verbal descriptions, symbols, equations, and graphs - and translate from one representation to another.

HW: Worksheet 2.5.4

CW 2.5.4 Function Representations

Name _____

Situation 1:

At the Vikings' game, it is Ball Park Frank Day. Each football fan will receive two free hot dogs with their paid admission to the game.

Independent Variable x:
    # of fans attending game
Dependent Variable f(x):
    # of free hot dogs

Table:

# of fans x	# of hot dogs
0	0
1	2
2	4
3	6
4	8

Equation:
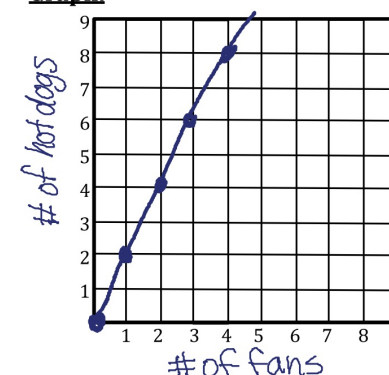
# of hot dogs = 2 · # of fans

$f(x) = 2x$

Graph:

#of fans / # of hot dogs

Find f(500) and explain its meaning in context of the problem.

$f(500)$ 2(500) = 1000

If there are 500 fans, 1,000 free hot dogs will be given away.

Situation 2:

At the gas station we buy gas for $3 per gallon

Independent Variable x:
    # of gallons of gas
Dependent Variable f(x):
    cost

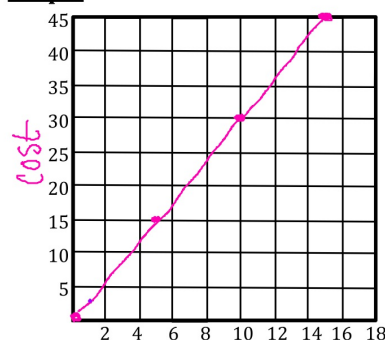**Table:**

# gallons of gas x	cost y
0	0
5	15
10	30
15	45

+5 → +15 between each row

What is the rate of change? 15/5 = $3/gallon

Equation:

cost = $3.00 · # of gallons of gas

$f(x) = 3x$

Graph:

cost / # gallons gas

Find f(7) and explain its meaning in context of the problem.

$f(7)$=3(7) = 21

If you buy 7 gallons of gas, your cost will be $21.

Situation 3:

At an outside market you can buy an ear of corn for $0.50.

Independent Variable x:
    # of ears of corn
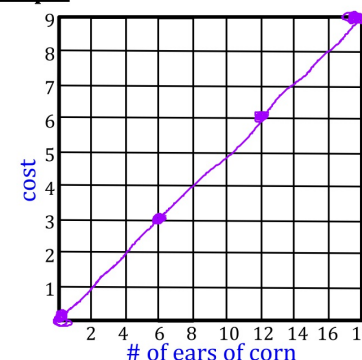Dependent Variable f(x):
    cost

Table:

# ears of corn	cost
0	0
6	3
12	6
18	9

+6 → +3 between each row

What is the rate of change? $3/6 ears = $0.50/ear of corn

Equation:

cost = $0.50 · # of ears of corn

$f(x) = 0.50x$

Graph:

cost / # of ears of corn

If you increase the # of ears of corn by 12, how much will the cost increase?

$6   0.5(12)