



MS Algebra: 2.5.5

Warm-up

Any ?s on HW: Worksheet 2.5.4

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

HW: Worksheet 2.5.5

CW 2.5.5 Function Representations

Situation 1:

The Waiting for Flyers Parking Lot charges you \$3 to enter the parking lot plus an additional \$2 for every hour your car is parked there.

Independent Variable x:

of hours parked in the lot

Dependent Variable f(x):

cost to park in the lot

Table:

	# of hours	cost	
+1 (0	3) +2
+1 (1	5) +2
+1 (2	7) +2
	3	9	

What is the rate of change? \$2/hour

What is the starting value (cost)? \$3

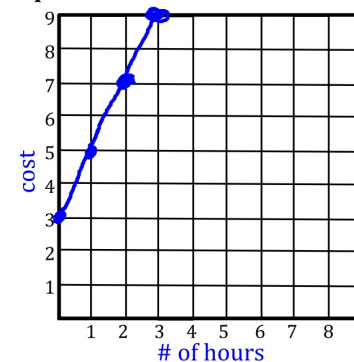
Name _____

Equation:

cost = 2 · # of hours + 3

$$f(x) = 2x + 3$$

Graph:



Find f(10) and explain its meaning in context of the problem.

$$f(10) = 23$$

$$2(10) + 3 = 23$$

If you park for 10 hours, you will have to pay \$23.

Situation 2:

You have 10 cookies. Then decide to bake more. You can fit 12 cookies on a pan.

Independent Variable x:

of pans of cookies you make

Dependent Variable f(x):

total # of cookies you have

Table:

# of pans made	total # of cookies
0	10
1	22
2	34
3	46

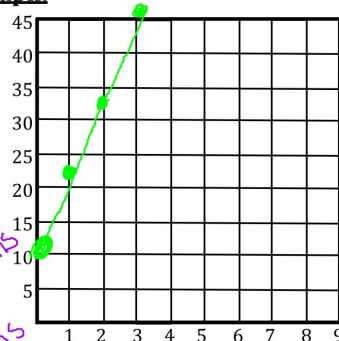
Equation:

Total # of cookies =

12 · # of pans of cookies made + 10

$$f(x) = 12x + 10$$

Graph:



If you increase the number of pans of cookies by 2, how many more cookies do you have?

$$34 - 10 = 24$$

$$2(12) = 24$$

What is the rate of change? 12 cookies per pan

What is the starting # of cookies? 10

Situation 3:

You have \$30. You buy bottles of pop for \$2.

Independent Variable x:

of bottles of pop

Dependent Variable f(x):

amount of money you have

Table:

# of pop bottles	amount of \$
0	30
1	28
2	26
3	24

What is the rate of change? -\$2/bottle of pop

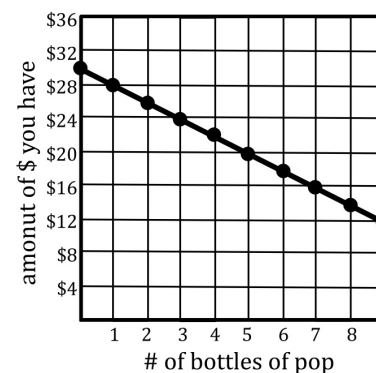
What is the starting amount of \$? \$30

Equation:

amount of \$ = -2 · # of bottles of pop + 30

$$f(x) = -2x + 30$$

Graph:



Find f(15) and explain its meaning in context of the problem.

$$-2(15) + 30 = 0$$

If you buy 15 bottles of pop, you will have \$0.