Today's Materials:

- folder/packet
- pen/pencil

- Growth Mindset*!*

Function Notation

Lesson 2

Back to the Post!

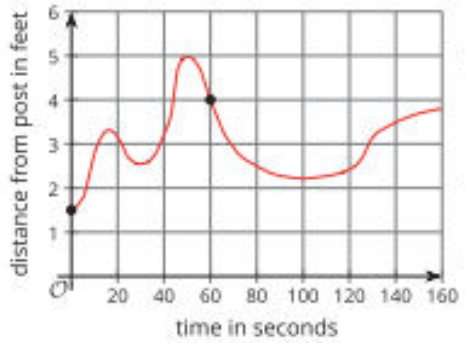
Page

2.1 Warm Up (10 minutes)

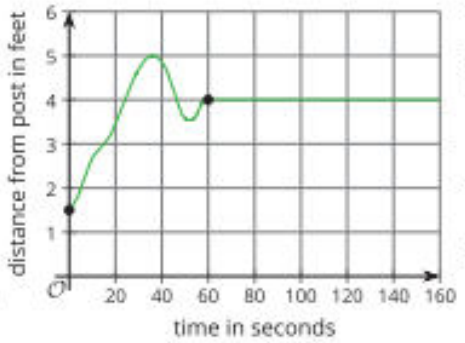
Here are the graphs of some situations you saw before.

Each graph represents the distance of a dog from a post as a function of time since the dog owner left to purchase something from a store.

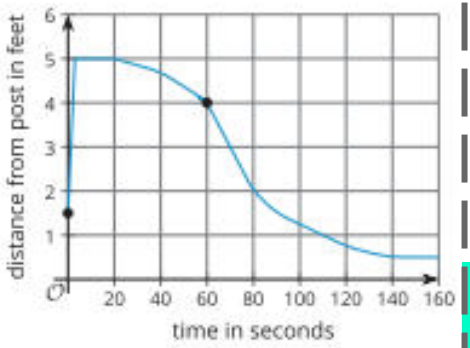
Day 1



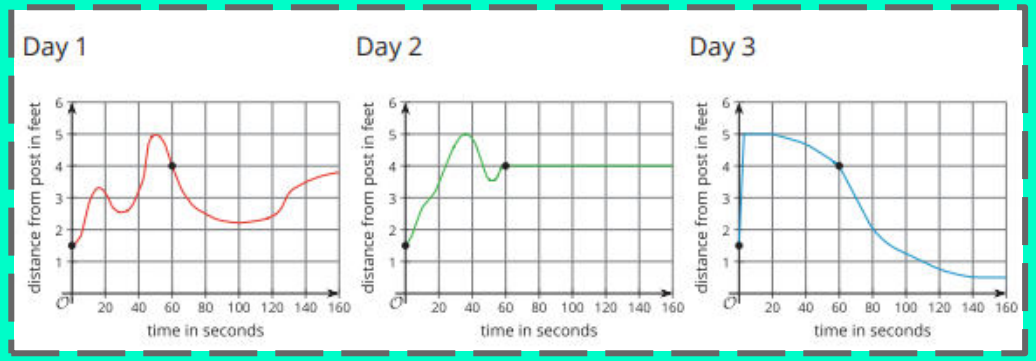
Day 2



Day 3



Use the given graphs to answer the questions on page ? of your packet.



1. Day 1:	Day 2:	Day 3:
a. 4 feet	a. 4 feet	a. 4 feet
b. 1.5 feet	b. 1.5 feet	b. 1.5 feet
c. about 3.7 feet	c. 4 feet	c. 0.5 foot
d. about 50 seconds	d. about 34 seconds	d. about 3 seconds

Let's share some responses to the last two questions:

2. "The dog was 2 feet away from the post after 80 seconds." Do you agree?

3. What was the distance of the dog from the post 100 seconds after the owner left?

Synthesis...

Sometimes we need to be pretty specific when talking about functions!

Being that specific could require many words and become burdensome....

Let’s learn about a handy way to refer to and talk about a function.

Today's Goals:

- ❑ **I can use** function notation to express functions that have specific inputs and outputs.
- ❑ **I understand** what function is and why it exits.
- ❑ When given a statement written in function notation, **I can explain** what it means in terms of a situation.

A Handy Notation

page

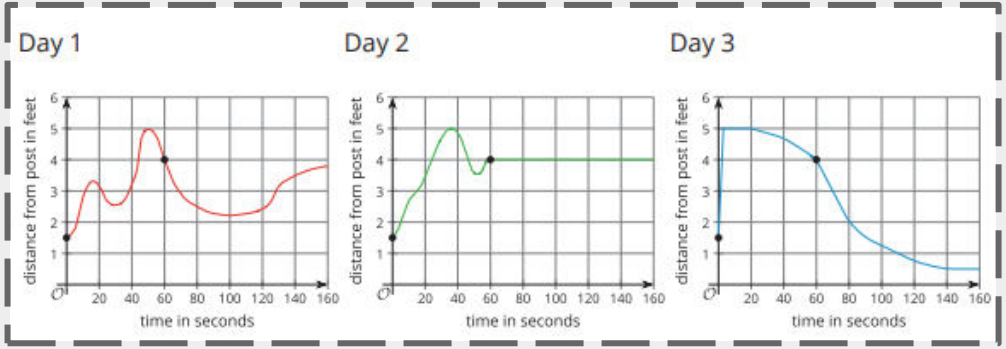
2.2 Activity (15 minutes)

One way to talk about functions precisely & without wordy descriptions is by naming the functions & using function notation.

Name that relates the dog's distance from the post & the time since its owner left:

function ***f*** for Day 1
function ***g*** for Day 2
function ***h*** for Day 3

Refer to the graphs from the warm-up to answer the questions on page ?

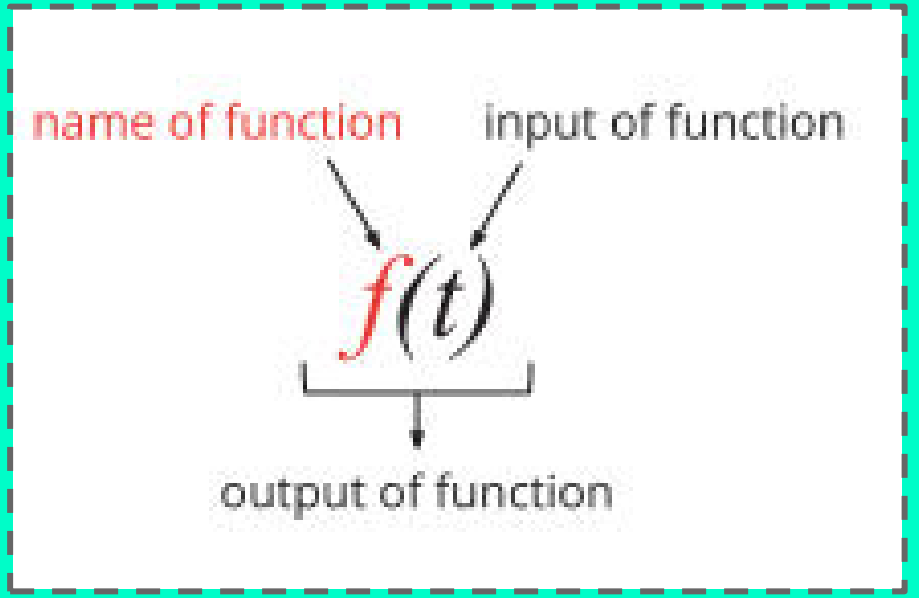


1. Use function notation to complete the table.

	day 1	day 2	day 3
a. distance from post 60 seconds after the owner left	$f(60)$	$g(60)$	$h(60)$
b. distance from post when the owner left			
c. distance from post 150 seconds after the owner left			

Synthesis:

The notation *f(t)* is read "*f* of *t*."



page

Birthdays!

4.3 Activity (10 minutes)

Rule B takes a person's name as its input, and gives their birthday as the output.

input	output
Abraham Lincoln	February 12
Alexander Hamilton	January 11
Frida Kahlo	July 6
Rosa Parks	February 4

Rule P takes a date as its input and gives a person with that birthday as the output.

input	output
August 26	Katherine Johnson
March 14	Albert Einstein
April 25	Ella Fitzgerald
October 17	Mae Jemison

page

...re examples of input-output pairs.

...o B, how many outputs are possible? Explain how

...ur birthday as the input to P, how many outputs are possible? Explain ...w.

...he two relationships is a function. The other is not a function. Which one ...lain how you know.

...onship that is a function, write two input-output pairs from the table ...n notation.

Synthesis…

- ➔ Why is B a function, but P is not?
- ➔ Would it be acceptable to express relationship P using function notation?

Lesson Synthesis...

Let's refer back to the bagel shop activity.

The best price for bagels, in dollars, is a function of the number of bagels bought, n.

$b(2)$ $b(6)$ $b(11) = 10.50$ $b(13) = 11.25$

Pair-Share:

- **Read** the statement aloud to your partner
- **Identify** the input, the output, and the function in the statement.
- **Explain** the meaning of the entire statement using a complete sentence.

Did we meet our Goals?

- ❑ **I can use** function notation to express functions that have specific inputs and outputs.
- ❑ **I understand** what function Is and why it exits.
- ❑ When given a statement written in function notation, **I can explain** what it means in terms of a situation.

A GROWING PUPPY

COOL DOWN