Before we begin, are there any questions from yesterday's assigned practice?

Complete D and R Worksheet #2
pp. 14–15 # 5, 6, 9, 10
READ pp. 17-23
pp. 24-25 # 3, 4, 6, 7
d b

***Yesterday's* lesson in bin.**

Homework Check...coming soon.

Keep up with the work or come for help.

RETURN and correct: ***Summative 0***

RETURN and correct: ***CheckPoint 1.1***

p. 24 **3.** State the degree of each function, and identify which are linear and which are quadratic.

a) $f(x) = -7 + 2x$
b) $g(x) = 3x^2 + 5$
c) $g(x) = (x - 4)(x - 3)$
d) $3x^1 - 4y^1 = 12$

degree: 1
$\therefore$ linear

p. 25 **6.** State the degree of each function and whether it is linear or quadratic.

a) $f(x) = -4x(x - 1) - x$
b) $m(x) = -x^2 + (x + 3)^2$
c) $g(x) = 3x^2 + 35$
d) $g(x) = 3(x - 5)$

$= -x^2 + (x+3)(x+3)$

$= -x^2 + x^2 + 6x + 9$

$= 6x^1 + 9$

$\therefore$ degree: 1

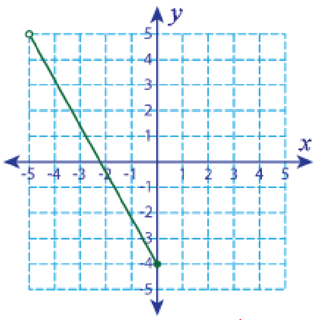
$\therefore$ linear

Domain and Range

ES1

Find the domain and range for each graph.

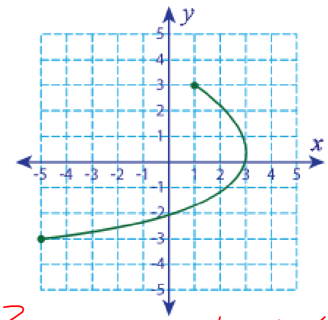
1)



Domain : $\{x \in \mathbb{R} \mid -5 < x \leq 0\}$

Range : $\{y \in \mathbb{R} \mid -4 \leq y < 5\}$

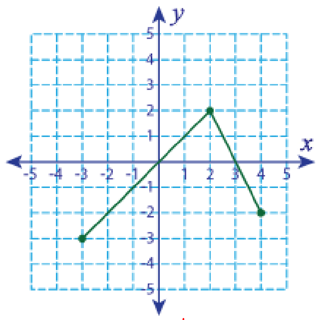
2)



Domain : $\{x \in \mathbb{R} \mid -5 \leq x \leq 3\}$

Range : $\{y \in \mathbb{R} \mid -3 \leq y \leq 3\}$

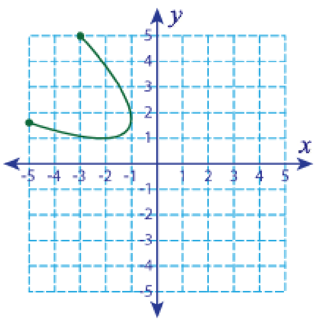
3)



Domain $\{x \in \mathbb{R} \mid -3 \leq x \leq 4\}$

Range $\{y \in \mathbb{R} \mid -3 \leq y \leq 2\}$

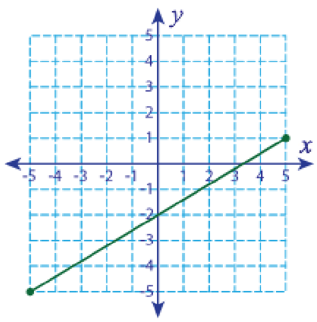
4)



Domain : $\{x \in \mathbb{R} \mid -5 \leq x \leq -1\}$

Range $\{y \in \mathbb{R} \mid 1 \leq y \leq 5\}$

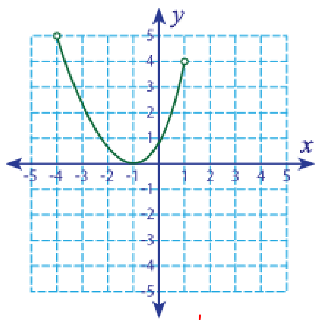
5)



Domain $\{x \in \mathbb{R} \mid -5 \leq x \leq 5\}$

Range $\{y \in \mathbb{R} \mid -5 \leq y \leq 1\}$

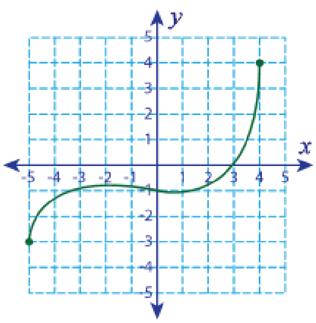
6)



Domain : $\{x \in \mathbb{R} \mid -4 < x < 1\}$

Range : $\{y \in \mathbb{R} \mid 0 \leq y < 5\}$

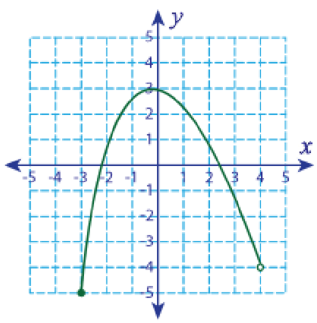
7)



Domain $\{x \in \mathbb{R} \mid -5 \leq x \leq 4\}$

Range $\{y \in \mathbb{R} \mid -3 \leq y \leq 4\}$

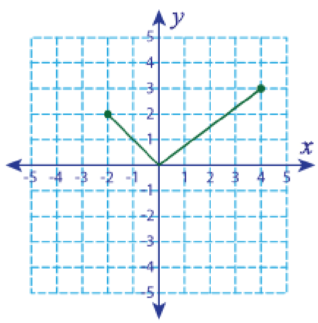
8)



Domain $\{x \in \mathbb{R} \mid -3 \leq x < 4\}$

Range $\{y \in \mathbb{R} \mid -5 \leq y \leq 3\}$

9)



Domain $\{x \in \mathbb{R} \mid -2 \leq x \leq 4\}$

Range $\{y \in \mathbb{R} \mid 0 \leq y \leq 3\}$

Printable Math Worksheets @ www.mathworksheets4kids.com

Today's Learning Goal(s):

By the end of the class, I will be able to:

a) interpret relationships expressed in function notation.

MCF 3MI

1.3 Function Notation

Date: Sept 17/19 (Every lesson)

Function notation is written like $f(x)$ and represents the value of the dependent variable for a given value of the independent variable. (*think of it like y*).

$f(x)$ is read as "f of x". The symbols $f(x)$, $g(x)$ *and* $h(x)$ are often used to name functions, but other letters may be used. It is sometimes helpful to use letters that match the quantities in the problem, for example use $v(x)$ to represent velocity.

Ex. 1: Given $f(x) = 2x^2 + 3x - 1$, evaluate:

a) $f(3)$

$= 2(3)^2 + 3(3) - 1$

$= 2(9) + 9 - 1$

$= 18 + 9 - 1$

$= 26$

b) $f\left(\frac{1}{2}\right)$

$= 2\left(\frac{1}{2}\right)^2 + \frac{3}{1}\left(\frac{1}{2}\right) - 1$

$= \cancel{2}\left(\frac{1}{\cancel{4}_2}\right) + \frac{3}{2} - 1$

$= \frac{1}{2} + \frac{3}{2} - 1$

$= \frac{4}{2} - 1$

$= 2 - 1$

$= 1$

c) $f(5) - f(4)$

$= 64 - 43$

$= 31$

$f(5)$

$= 2(5)^2 + 3(5) - 1$

$= 2(25) + 15 - 1$

$= 50 + 14$

$= 64$

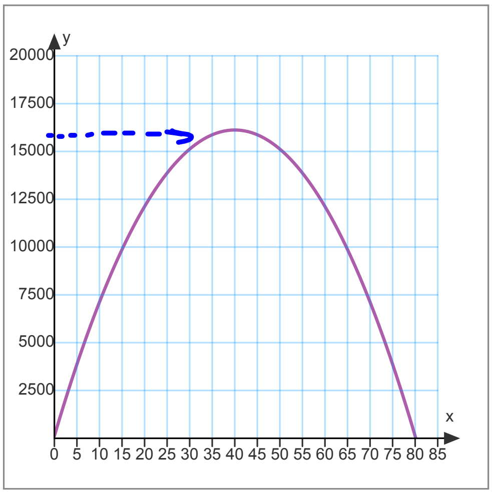
$f(4) = 2(4)^2 + 3(4) - 1$

$= 2(16) + 12 - 1$

$= 32 + 12 - 1$

$= 43$

Ex. 2: The relationship between the selling price of a new brand of sunglasses and revenue, $R(s)$, is represented by the function $R(s) = -10s^2 + 800s + 120$ and it's graph below.



a) Determine the revenue when the selling price is $5.

$R(5) = -10(5)^2 + 800(5) + 120$
$= -10(25) + 4000 + 120$
$= -250 + 4120$
$= 3870$

b) What does $R(20) = 12120$ mean? Explain.

If the selling price is $20, the revenue is $12120.

c) If $R(s) = 16120$, determine the selling price, s.

$R(s) = -10s^2 + 800s + 120$
$16120 = -10s^2 + 800s + 120$
$0 = -10s^2 + 800s + 120 - 16120$
$= -10s^2 + 800s - 16000$
$= -10(s^2 - 80s + 1600)$
$= -10(s-40)(s-40)$
$= -10(s-40)^2$
$\therefore s = 40$

$\therefore$ the selling price must be $40 for the revenue to be $16 120.

Ex. 3: If $g(x) = 2x^2 - 3x + 5$, determine:

a) $g(m)$

$= 2(m)^2 - 3(m) + 5$
$= 2m^2 - 3m + 5$

b) $g(3x)$

$= 2(3x)^2 - 3(3x) + 5$
$= 2(9x^2) - 9x + 5$
$= 18x^2 - 9x + 5$

Today's Assigned Practice:

READ pp. 27-32, 36

then complete: pp. 32-34 # 2, 4, 6, 9, 10a(vi), 11a(vi), 12