Today's Learning Goal(s):

Date: Feb. 26/19
(Every lesson)

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

a) quickly graph the 5 parent functions.

b) state the domain and range of a function from the graph, table or equation.

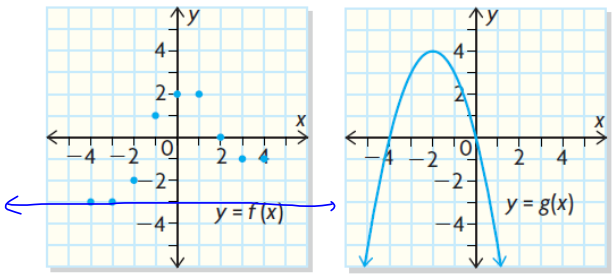
2d 6a 5d

Last day's work: pp. 22-23 #1, 2, 4 – 7, 9, 10

Funcon Notaon Worksheet #1 – 6
(answer keys on class website)

2i 4e

p. 22 **2.** The graphs of $y = f(x)$ and $y = g(x)$ are shown.



Using the graphs, evaluate

a) $f(1)$
b) $g(-2)$
c) $f(4) - g(-2)$
d) x when $f(x) = -3$

$\therefore x = -4$ and $x = -3$

p. 23

5. For $f(x) = \dfrac{1}{2x}$, determine

a) $f(-3)$ b) $f(0)$ c) $f(1) - f(3)$ d) $f\left(\frac{1}{4}\right) + f\left(\frac{3}{4}\right)$

$= \dfrac{1}{2\left(\frac{1}{4}\right)} + \dfrac{1}{2\left(\frac{3}{4}\right)}$

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

$= 2 + \dfrac{2}{3}$

$= \dfrac{6}{3} + \dfrac{2}{3}$

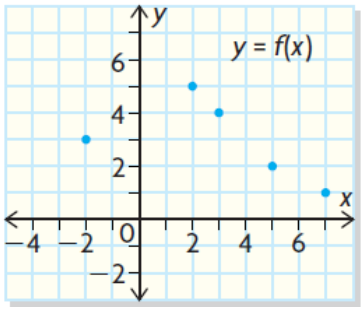
$= \dfrac{8}{3}$

6. The graph of $y = f(x)$ is shown at the right.

a) State the domain and range of f.

b) Evaluate.

i) $f(3)$
ii) $f(5)$
iii) $f(5 - 3)$
iv) $f(5) - f(3)$



$D_f: \{-2, 2, 3, 5, 7\}$

$R_f: \{1, 2, 3, 4, 5\}$

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2i 4e

from Funcon Notaon Worksheet

2. Evaluate the following expressions given the functions below:

$g(x) = -3x + 1$ $f(x) = x^2 + 7$ $h(x) = \frac{12}{x}$ $j(x) = 2x + 9$

i. Find x if $h(x) = -2$

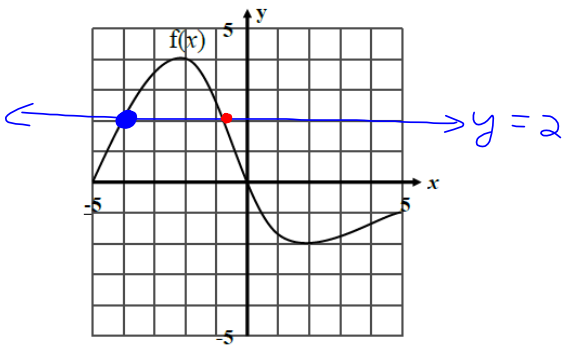
$-2 = \frac{12}{x}$

$-2x = 12$

$x = \frac{12}{-2}$

$x = -6$

4. Given this graph of the function f(x):



Find:

a. f(–4) = **b.** f(0) = **c.** f(3) **d.** f(–5)

e. x when $f(x) = 2$ **f.** x when $f(x) = 0$

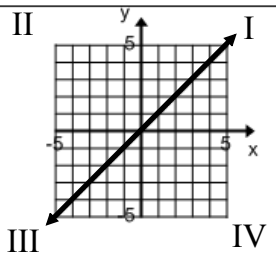
if $x = -4$

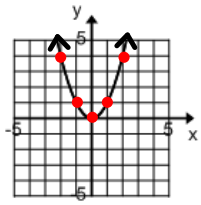
also

if $x \doteq -0.8$

1.3 Parent Functions
1.4 Domain & Range (revisited)

Date: Feb. 26/19
(**Every** lesson)

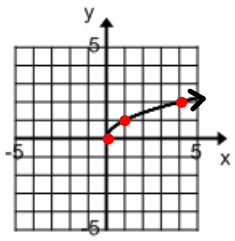
Equation of Function	Name of Function	Sketch of Graph	Special Features/ Symmetry	Domain	Range
$f(x) = x$	Linear		· Straight line · Goes through origin · In QI and QIII	$\{x \in \mathbb{R}\}$	$\{y \in \mathbb{R}\}$

Equation of Function	Name of Function	Sketch of Graph	Special Features/ Symmetry	Domain	Range
$f(x) = x^2$	Quadratic		· Parabola opening up · Vertex at origin · y-axis is A. of S. · In QI and QII	$\{x \in \mathbb{R}\}$	$\{y \in \mathbb{R} \mid y \geq 0\}$

Key Points: (0,0)

(1,1) (-1,1)

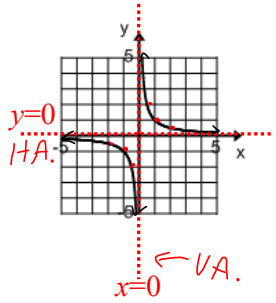
(2,4) (-2,4)

Equation of Function	Name of Function	Sketch of Graph	Special Features/ Symmetry	Domain	Range
$f(x) = \sqrt{x}$	Square Root		· Curve · Starts at origin · Only in QI	$\{x \in \mathbb{R} \mid x \geq 0\}$	$\{y \in \mathbb{R} \mid y \geq 0\}$

Key Points: (0,0)

(1,1)

(4,2)

Equation of Function	Name of Function	Sketch of Graph	Special Features/ Symmetry	Domain	Range
$f(x) = \frac{1}{x}$	Reciprocal		· Asymptotes at x-axis and y-axis · In QI and QIII · Curves toward but never crosses asymptotes	$\{x \in \mathbb{R} \mid x \neq 0\}$	$\{y \in \mathbb{R} \mid y \neq 0\}$

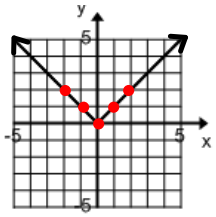
Key Points:

$(1,1)$ $(-1,-1)$

$\left(2,\frac{1}{2}\right)$ $\left(-2,\frac{-1}{2}\right)$

$\left(\frac{1}{2},2\right)$ $\left(\frac{-1}{2},-2\right)$

HA = horizontal asymptote

Equation of Function	Name of Function	Sketch of Graph	Special Features/ Symmetry	Domain	Range
$f(x) = \lvert x \rvert$	Absolute Value		· V that opens up · Vertex at origin · y-axis is A. of S. · In QI and QII	$\{x \in \mathbb{R}\}$	$\{y \in \mathbb{R} \mid y \geq 0\}$

Key Points: (0,0)

(1,1) (-1,1)

(2,2) (-2,2)

Assignment - hand in at the beginning of next class

On a full size sheet of graph paper, graph the following functions.

- Identify the key points for each function
- Use a scale of 1 box = 1 unit
- State the Domain and Range

$y = \sqrt{x}$ $y = |x|$ $y = \frac{1}{x}$

Are there any Homework Questions you would like to see on the board?

Last day's work: pp. 22-23 #1, 2, 4 – 7, 9, 10
Funcon Notaon Worksheet #1 – 6
(answer keys on class website)

Today's Homework Practice includes:

p. 28 #1 - 3

pp. 35-37 #4, 9, 11 [16, 17]

If time, show number systems Venn Diagram.