

BE-PRECALC MONDAY 8-17-09

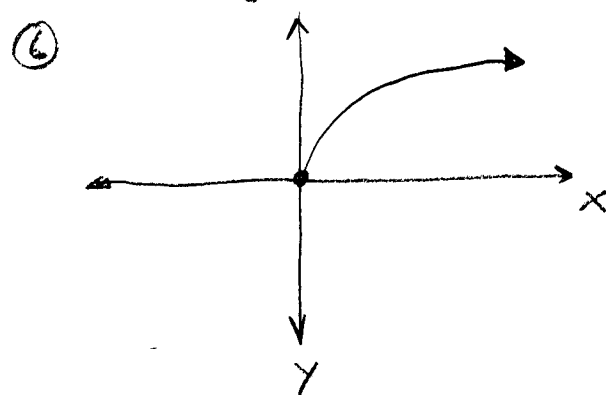
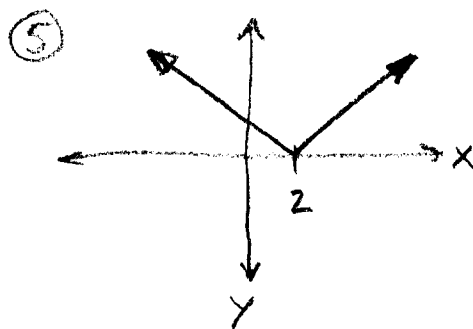
$$f(x) = 2x - 6 \quad g(x) = x^2 + 2x - 1$$

FIND:

① $f(3)$ ② $f(-4)$ ③ $g(2)$

④ $g(-2)$

FIND THE domain and range:



- Forms to Handin.

- Homework review $\Rightarrow$ Spreadsheet Application

$\downarrow$
See Bulldogmath $\rightarrow$ Google Docs
 $\rightarrow$ Excel File

- Issue Books

Spreadsheet Application Activity

(Use after Lesson 1-1)

Evaluating Functions

You have learned that a function can be evaluated for each value in its domain. A spreadsheet can be used to evaluate certain functions very quickly. Although a spreadsheet can be used to calculate values quickly, it is not just a calculator. You must provide the operators—symbols that indicate what kinds of operations are to occur—in the formula bar of your program. Below is a table of common operators used with spreadsheets.

*	means multiply
^	means raise to the power of
/	means divide
A1	means the first cell in column A
B2	means the second cell in column B

Study the spreadsheet at the right. The values for x are entered in the cells in column A. In cell B1 of your spreadsheet, enter the formula $=3*(A1^3)-7*(A1^2)-2*(A1)$. When this formula is entered press "Return" or "Enter," and the spreadsheet will perform the operation. Copy this formula into other cells in column B to calculate for other values of x .

	A	B
1	3	$=3*(A1^3)-7*(A1^2)-2*(A1)$
2	-4	-296

Exercises

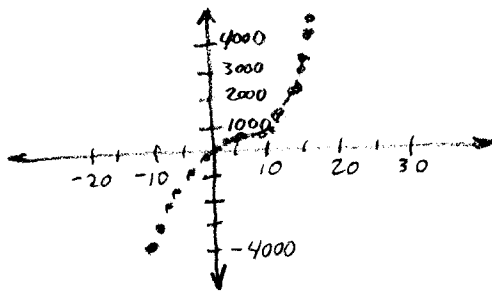
1. What algebraic expression does $=3*(A1^3)-7*(A1^2)-2*(A1)$ represent?

$$3x^3 - 7x^2 - 2x$$

2. Use the spreadsheet to evaluate the function in the example for $x = 2$.

$$f(2) = -8$$

3. Use the spreadsheet to find the values of the function for $x = -10$ to $x = 10$. Then, use the graphing capability of the spreadsheet to make a graph of the values. Sketch the graph here.



4. Use a spreadsheet to evaluate each function for the given value.

a. $b(a) = 3a^7 - 10a^4 + 3a - 11$ for $a = -3$

$$b(-3) = -7391$$

b. $b(a) = (a + 3)(a - 10)^2 - a^2$ for $a = 4$

$$b(4) = 250$$

c. $b(a) = ((a + 5)(a - 5))^3 \div (a - 5)^2$ for $a = 10$

$$b(10) = 16,875$$

1.
Are there any restrictions on the domain of $y = f(x) = \frac{1}{x}$

$$x \neq 0$$

Set notation domain = $\{x \mid x = \text{All } \mathbb{R}, x \neq 0\}$

Ex State the domain of $f(x) = \frac{x^3 + 5x}{x^2 - 4x}$

Since any values of x where $x^2 - 4x = 0$ are excluded from the domain, solve:

$$x^2 - 4x = 0$$

$$x(x - 4) = 0$$

$$x = \{0, 4\}$$

$$\boxed{\text{domain} = \{x \mid \text{All } \mathbb{R}, x \neq 0, 4\}}$$

Ex State the domain of $\frac{1}{\sqrt{x-4}}$

First $x \neq 4$ since THAT would make the denominator 0

Also, No Real number is $\sqrt{\text{negative}}$

$$\text{so } \begin{array}{cc} x-4 > 0 \\ +4 & +4 \end{array}$$

$\therefore x > 4$ to keep $\sqrt{x-4}$ positive

$$\text{domain} = \{x \mid \text{all } \mathbb{R}, x > 4\}$$

$$\boxed{X = \{x \mid x > 4\}}$$

ALL $\mathbb{R}$ IS UNDERSTOOD

the set of x such that $x > 4$.

Homework: Read Ch. 1-1

Pg 10-11 # 32, 34, 38, 40
42, 48.

Challenge: #46.