(1) HW Hotline →

(2) Then Pick up and do the Warm Up

as soon as you get to part **1c,** have <u>one</u> person in your group pick up any needed graphing calculators.

Warm Up/Notes
1.1.3

1a. Can -16 be used as an input for $f(x) = \sqrt{x}$?

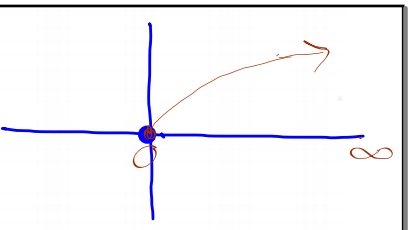
No, therefore -16 is not part of the domain of this function

b. Find two more values that are not part of the domain of $f(x)$

any two negative numbers

c. Make a sketch of the graph of $f(x) = \sqrt{x}$ →

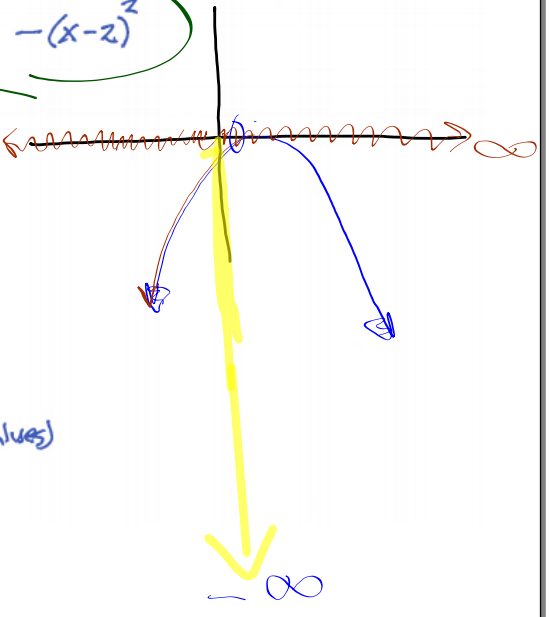
$y = \sqrt{x}$



d. Describe the domain and verify with the "TABLE" on your Graphing Calculator.

$0 \leq x < \infty$

2. a. Make a sketch of $g(x) = -(x-2)^2$



b. What is the domain?

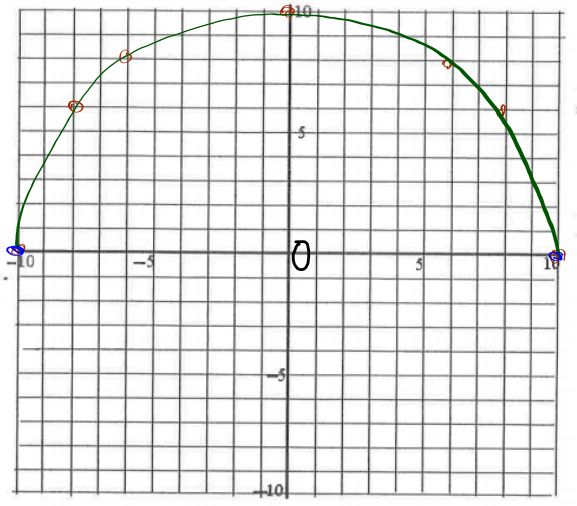
$-\infty < x < \infty$

c. What is the range? (of possible y-values)

$-\infty < y \leq 0$

3. Now make a detailed graph of $f(x) = \sqrt{100 - x^2}$

x	y
−10	0
−8	6
−6	8
0	10
6	8
8	6
10	0

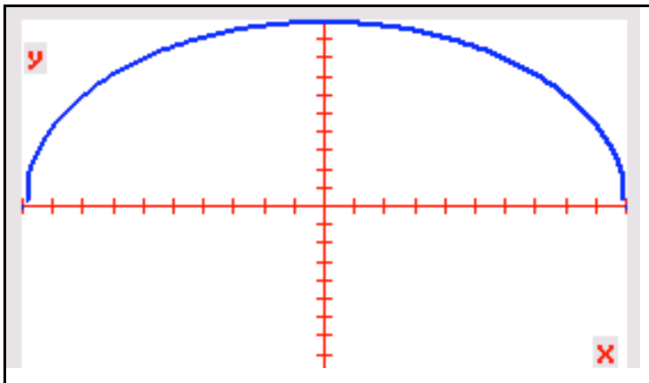


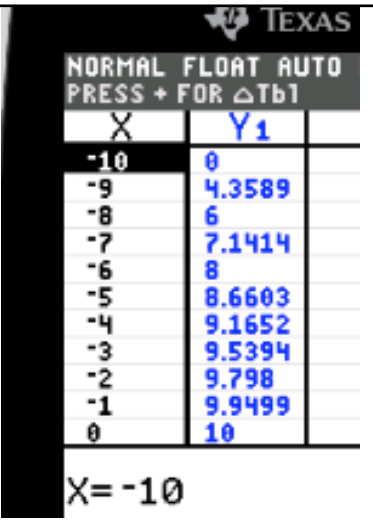
Describe the domain.

$-10 \leq x \leq 10$

Describe the range.

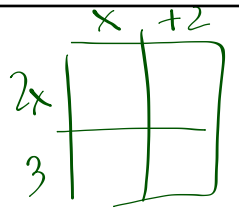
$0 \leq y \leq 10$

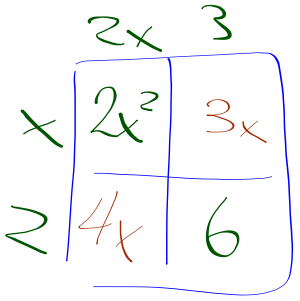




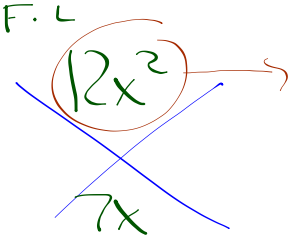
④ Factor $2x^2 + 7x + 6$

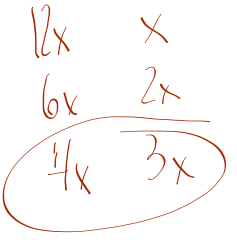
$(2x+3)(x+2)$





F. L





$(2x + 3)(x + 2)$

⑤ $(2x^3)(-5x)$

$2x^3 \cdot -5x$

$-10x^4$

$(4x^2)^2(10x^2)$

$4^2(x^2)^2 \cdot 10x^2$

$16x^4 \cdot 10x^2$

$x^4 \cdot x^2$

$160x^6$

☆ ☆ Rows	Pods of 3 to 4	**Strong** preference for **rows**
☆ Rows	Pods of 3 to 4	Slight preference for **rows**
Rows	Pods of 3 to 4	I'm flexible
Rows	☆ Pods of 3 to 4	Slight preference for **pods**
Rows	☆☆ Pods of 3 to 4	**Strong** preference for **pods**

HW Questions ?

From now on •

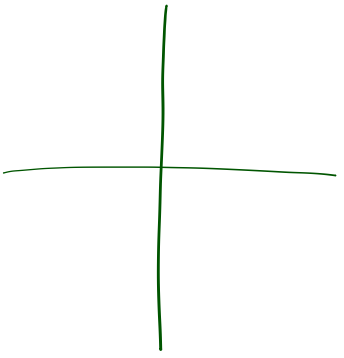
16)

11-16

1-20

Make a table and graph the function $f(x) = \frac{1}{2}x^2$.

x	y



1-25

$$3(x-2)-2(x+7)=2x+17$$
$$3x-6-2x+14=2x+17$$
$$x+8=2x+17$$
$$-9=x$$

13 f

$3x^2 + 14x - 5 = 0$

$(\quad)(\quad) = 0$

quad. term

$3x^2$	
	-5

constant

quad term times constant

$3x^2$	
	-5

$-15x^2$

$14x$

linear term

	×	+
$3x$	$3x^2$	$15x$
-1	$-x$	-5

$-15x^2$

$-x \quad 15x$

$14x$

13 d

$x^2 - 5x = 0$

↑ factor out GCF

16 a) $y = 3x + 15$ b) $y = 3 - 3x$

when $x = 2$
$x = 0$

what is the y-intercept ?

slope 5
$(0, -2)$

(a) $y = 5x - 2$

(b) find, $x = 2$

$y = 5(2) - 2$
$= 8$

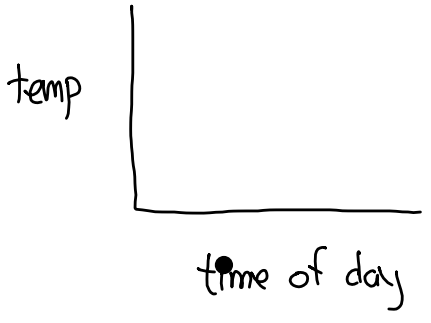
17 $f(x) = x^2 + 2x + 1$

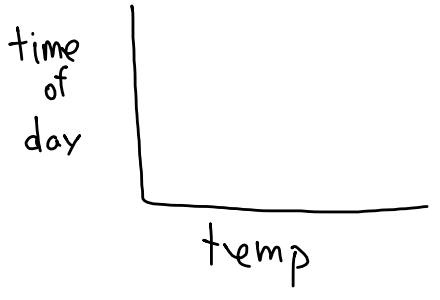
(a) $f(3) =$

(b) $f(-4) =$

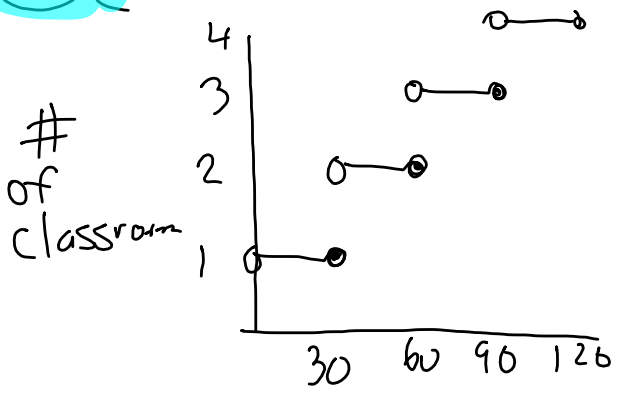
(c) $f(-22.872) =$

18 c Sketch a graph that shows the relationship between temperature and time of day





23



inputs

0 to 120

outputs

0 to 4

While using the solutions (and a pen)

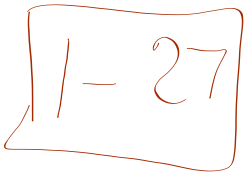
1. Mark your HW in a way that makes sense to
   - catch your mistakes
   - don't erase anything but consider re-writing a process in a way so you will remember it later and so that it is useful to look at before a test.
2. Then give yourself a HW proficiency score and write it in ink on your assignment and on the Recording Sheet.

TODAY:

Find **Domain** and **Range** of a function given either its graph or its equation.

Many days we will use what are called "Core Problems" todevelop your understanding of the skills andconcepts.

I want you to record this process in your notes.

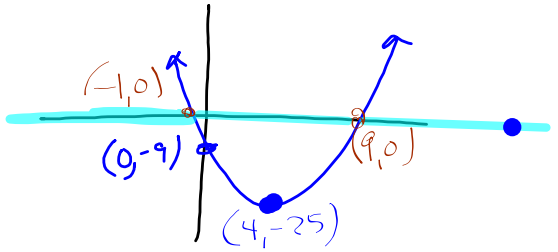


Do 1-27 ab

I'll work along with you.

Start by making a quality labeled sketch

1-27 ab $y = (x+1)(x-9)$



window settings

$-10 < x < 10$

$-30 < y < 10$

A parabola with a vertex $(4, -25)$ and y-intercept of $(0, -9)$ and x-intercepts of $(-1, 0)$ $(9, 0)$

domain

$-\infty < x < \infty$

range

$-25 \leq y < \infty$

1-27

a) $y = (x+1)(x-9)$

describe the graph ?

b) What window ?

c) How are settings related to domain and range?

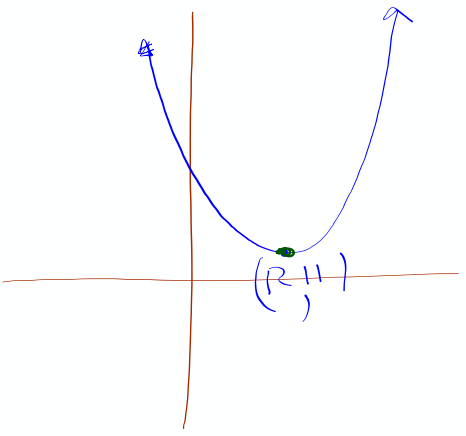
Vertex, x-intercepts, and y-intercepts

B.B.

continue to 1-28 and 1-29a

↑ sketch

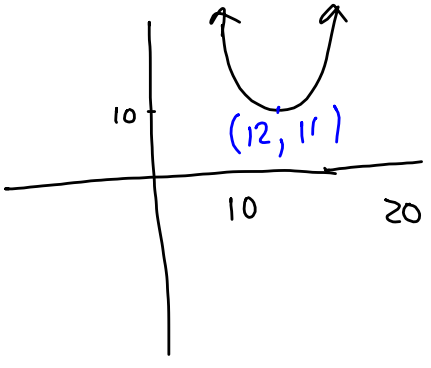
- Be sure everyone in your group is solid before anyone goes on to #1-29



$11 \leq y < \infty$

1-28 $y = (x-12)^2 + 11$

b) Settings



$\leq x \leq$

$\leq y \leq$

c)

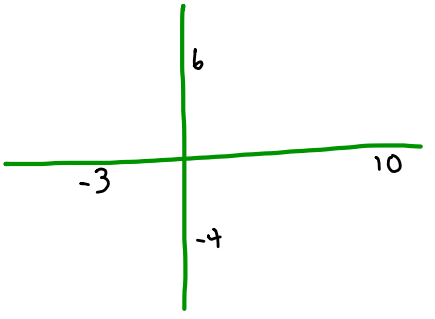
domain

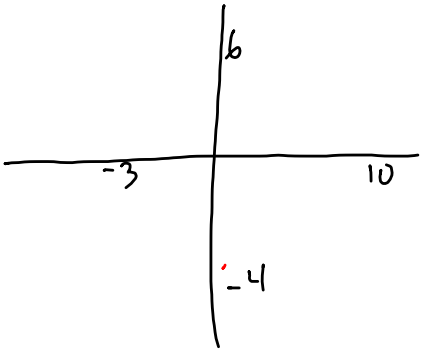
range

1-29a Sketch a function

domain $-3 \leq x \leq 10$

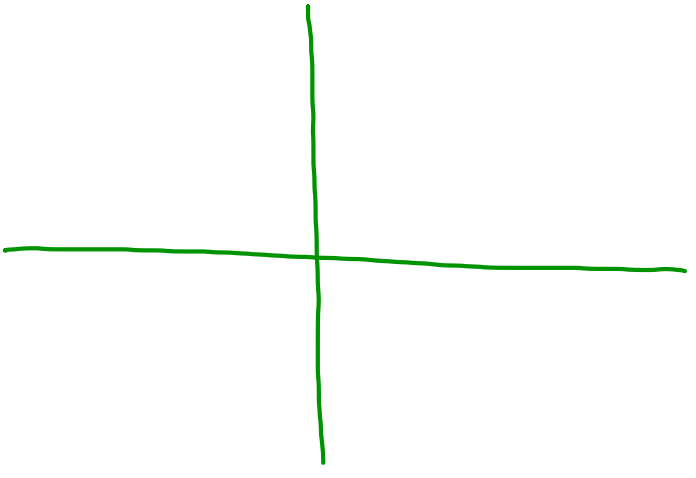
range $-4 \leq y \leq 6$





b) domain: all real numbers $-\infty \leq x \leq \infty$

range: only 2, 4, 5, 8



1-30

$5x - y = 35$ $3x + y = -3$

Assignment

1....34-36, 37acde, 38, 40a

If getting a graphing calculator is a hardship at this time for your family, then see me about getting a loaner from the math department. See me before you leave school today.