Name_____

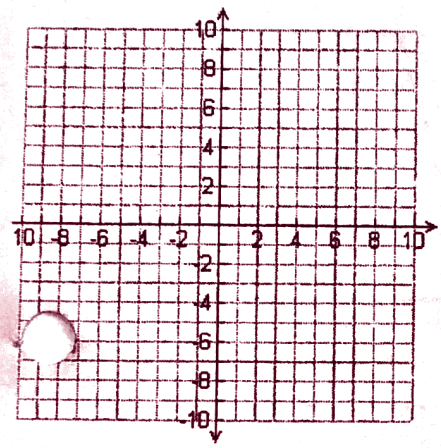
Functions Quiz 2 Review

Be able to Graph Functions (fill in a table and graph on the coordinate plane).

Graph each function. Find <u>at least</u> 7 points for each. <u>Show all work.</u>

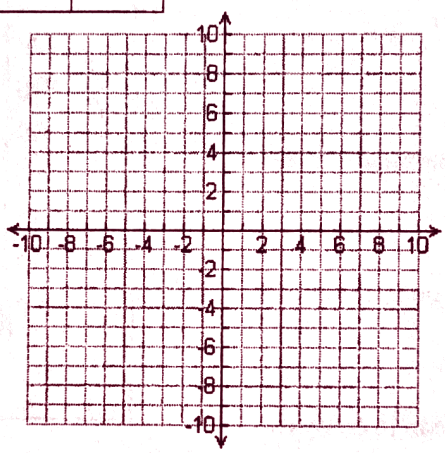
1) $f(x) = \frac{1}{4}x - 6$

x	f(x)



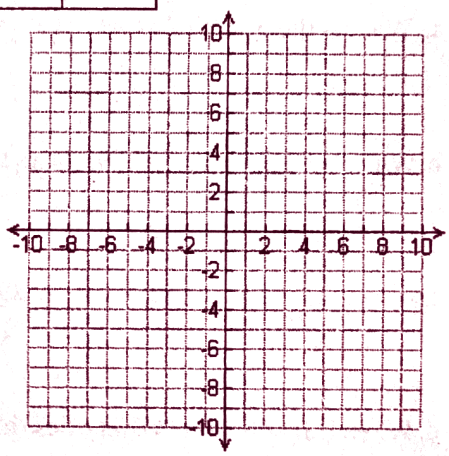
2) $g(x) = -4|x - 4|$

x	g(x)



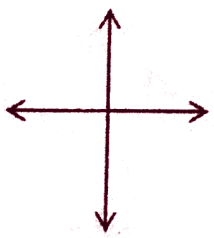
3) $h(x) = (x - 2)^2 - 5$

x	h(x)

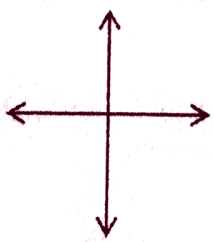


4) Sketch what each graph will look like:

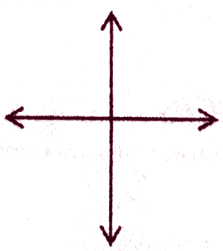
Linear:



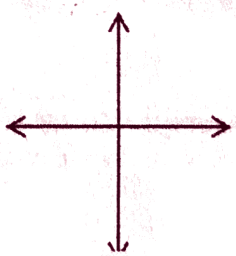
Quadratic:



Absolute Value:

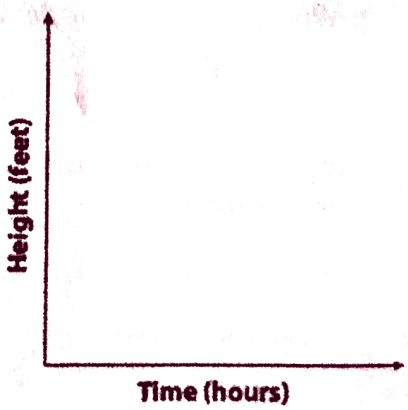


Square Root:



5) Graph the situation:

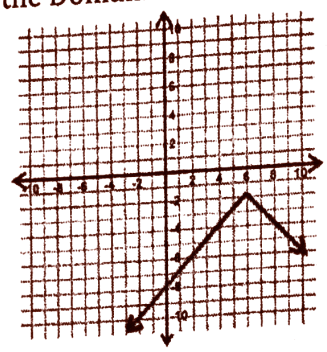
You decide to hike up a mountain. You climb steadily for 2 hours then take a 30 minute break for lunch. Then you continue to climb, faster than before. When you make it to the summit, you enjoy the view for an hour. Finally, you decide to climb down the mountain, but stop halfway down for a short break. Then you continue down at a slower pace than before.

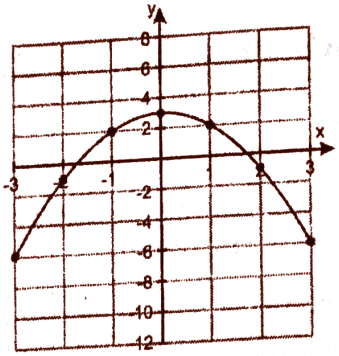


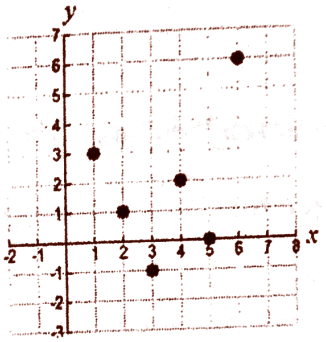
Find the Domain a

Name_____

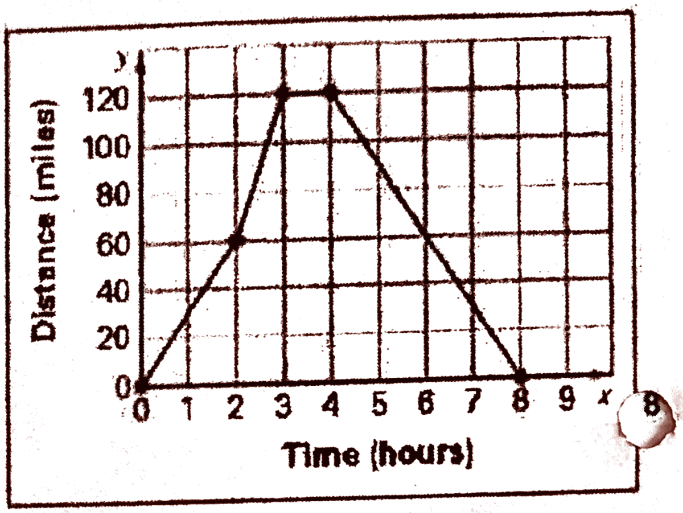
6) Find the Domain and Range of Each







7) The graph shows the distance (in miles) of a delivery truck from the factory.



a. What is the domain? What is the range?

b. When is it increasing? What does this mean in context?

c. When is it decreasing? What does this mean in context?

d. When is it constant? What does this mean in context?

e. What are the x intercepts?

f. What are the y intercepts?

g. What is the maximum?

8) A restaurant sells ice tea for $1.50 for each cup. A group of six people order drinks.

a. Write a rule in function notation for this situation.

b. What is a reasonable domain and range for the function?

9) Ms. Bolus drives at a speed of 60 miles per hour to get to Birmingham to see her family. Birmingham is about 180 miles from Nashville.

a. Write a rule in function notation for this situation.

b. What is a reasonable domain and range for the function.

Name Key

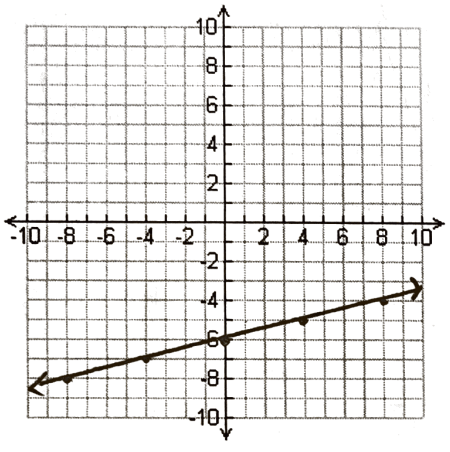
Functions Quiz 2 Review

Be able to Graph Functions (fill in a table and graph on the coordinate plane).

Graph each function. Find <u>at least</u> 7 points for each. <u>Show all work.</u>

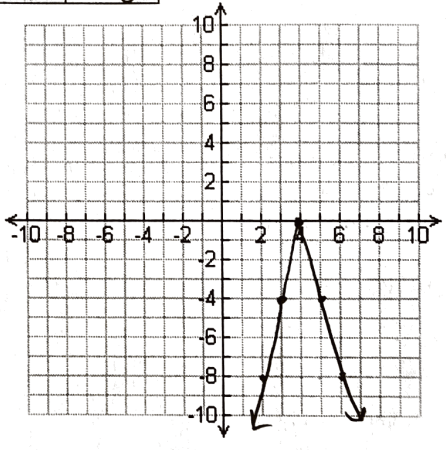
1) $f(x) = \frac{1}{4}x - 6$

x	f(x)
-8	-8
-4	-7
-2	-6.5
0	-6
2	-5.5
4	-5
8	-4



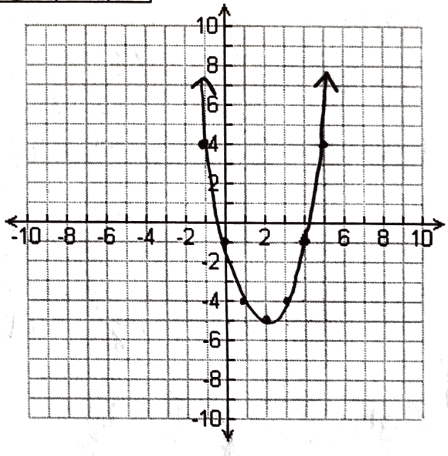
2) $g(x) = -4|x - 4|$

x	g(x)
0	-16
1	-12
2	-8
3	-4
4	0
5	-4
6	-8



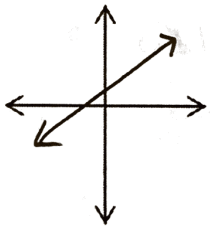
3) $h(x) = (x - 2)^2 - 5$

x	h(x)
-1	4
0	-1
1	-4
2	-5
3	-4
4	-1
5	4

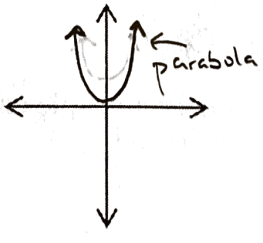


4) Sketch what each graph will look like:

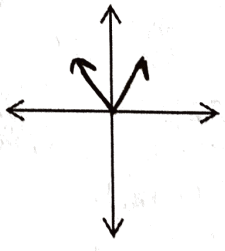
Linear:



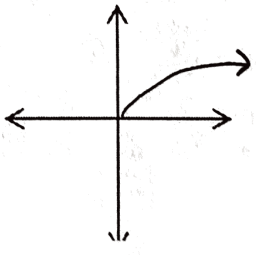
Quadratic:



Absolute Value:

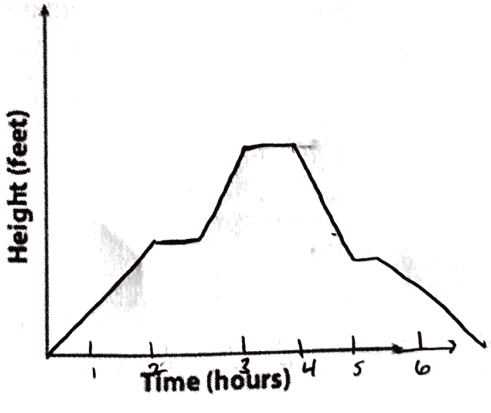


Square Root:



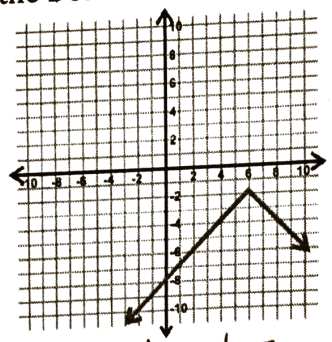
5) Graph the situation:

You decide to hike up a mountain. You climb steadily for 2 hours then take a 30 minute break for lunch. Then you continue to climb, faster than before. When you make it to the summit, you enjoy the view for an hour. Finally, you decide to climb down the mountain, but stop halfway down for a short break. Then you continue down at a slower pace than before.



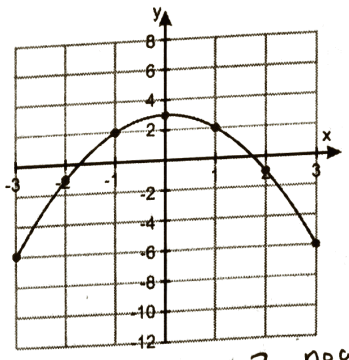
Name_____

6) Find the Domain and Range of Each



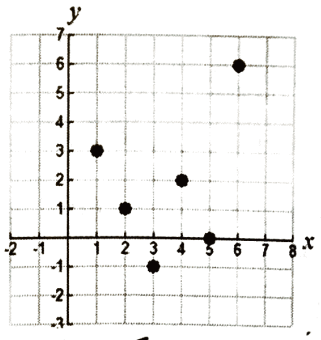
D: all real numbers

R: $y \leq -2$



D: $-3 \leq x \leq 3$, no arrows on graph!

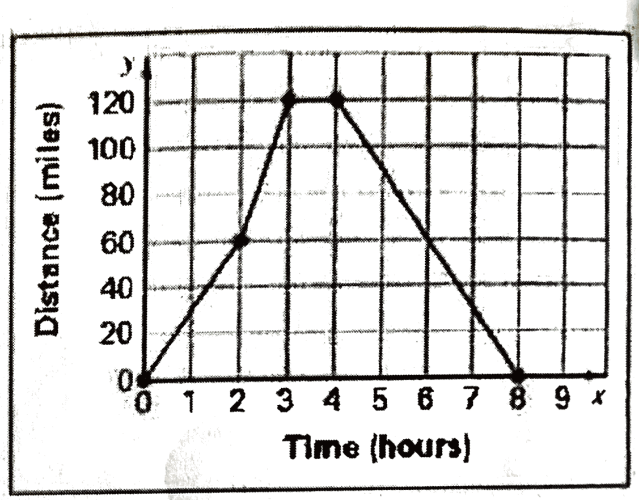
R: $-6 \leq y \leq 3$



D: {1, 2, 3, 4, 5, 6}

R: {-1, 0, 1, 2, 3, 6}

7) The graph shows the distance (in miles) of a delivery truck from the factory.



a. What is the domain? What is the range?

D: $0 \leq x \leq 8$

R: $0 \leq y \leq 120$

b. When is it increasing? What does this mean in context?

$0 < x < 3$ the delivery truck is going to its destination

c. When is it decreasing? What does this mean in context?

$4 < x < 8$ he is going back to the factory

d. When is it constant? What does this mean in context?

$3 < x < 4$ he stopped to make his delivery

e. What are the x intercepts?

0 & 8

f. What are the y intercepts?

0

g. What is the maximum?

120

8) A restaurant sells ice tea for $1.50 for each cup. A group of six people order drinks.

a. Write a rule in function notation for this situation.

$f(x) = 1.50x$

b. What is a reasonable domain and range for the function?

D: {0, 1, 2, 3, 4, 5, 6}

R: {0, 1.50, 3.00, 4.50, 6.00, 7.50, 9.00}

9) Ms. Bolus drives at a speed of 60 miles per hour to get to Birmingham to see her family. Birmingham is about 180 miles from Nashville.

a. Write a rule in function notation for this situation.

$f(x) = 60x$ OR $f(x) = 180 - 60x$

b. What is a reasonable domain and range for the function.

D: $0 \leq x \leq 3$ R: $0 \leq y \leq 180$