Algebra 2 Name Key ID: 1

Chapter 1 review questions

Date _____ Period ____

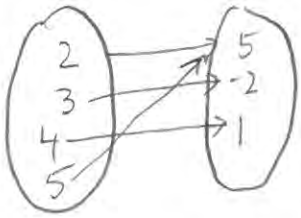
1) Given {(2,5), (3,-2), (4, 1), (5, 5)}

Is this a function? yes no x repeats

List the domain: {2, 3, 4, 5}

List the Range: {5, -2, 1}

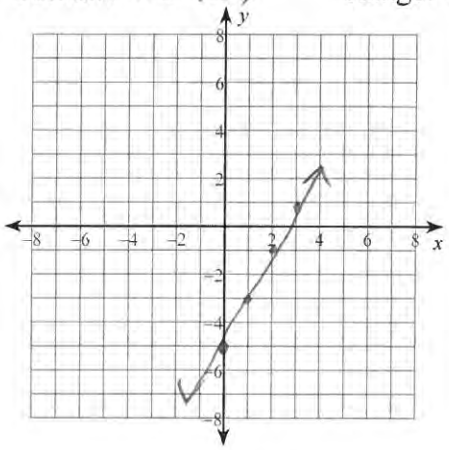
Make a mapping diagram.



2) Graph $y = 2x - 5$

Is this a function? yes

Domain: $(-\infty, \infty)$ Range: $(-\infty, \infty)$



3) Write an example of a relation that is not a function and describe why it is not. {(2,1) (2,2) (3,4)} x=2 repeats

Evaluate each function.

4) $p(n) = -4n + 3$; Find $p(-2)$

$p(-2) = -4(-2) + 3 = 11$

5) $g(t) = t^2 - 2t$; Find $g(1)$

$g(1) = 1^2 - 2(1) = 1 - 2 = -1$

6) $f(n) = -3n - 1$; Find $f(1 + n)$

$f(1+n) = -3(1+n) - 1$

$= -3 - 3n - 1$

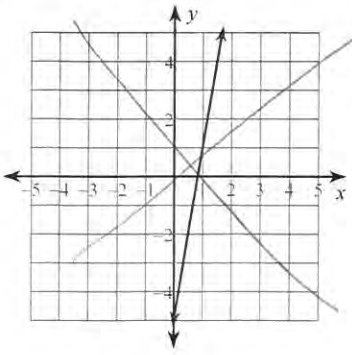
$= -3n - 4$

7) Find the slope between the points.

a) (4, -1) and (-7,5) b) (3, 7) and (3, 1)

Write the slope-intercept form of the equation of each line.

8)

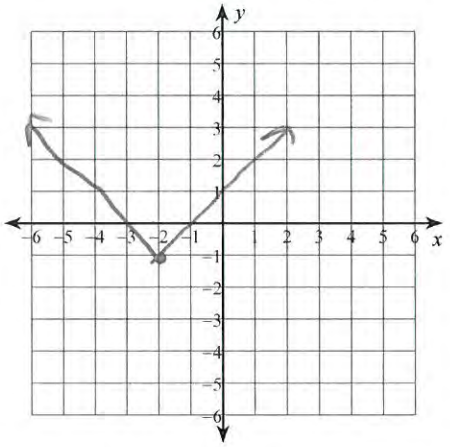


9) Using your previous scatterplot and points: (5, 2) (-1, -4)

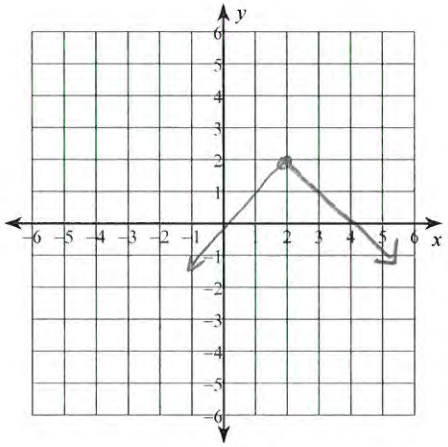
Find an equation for your line and predict the value at x=7

Graph each equation. Find the vertex and slope.

10) $y = |x+2| - 1$ left 2 ↓ 1

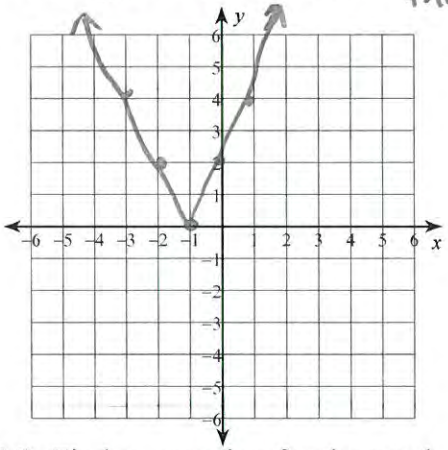


11) $y = -|x-2| + 2$ right 2 ↑ 2 reflect

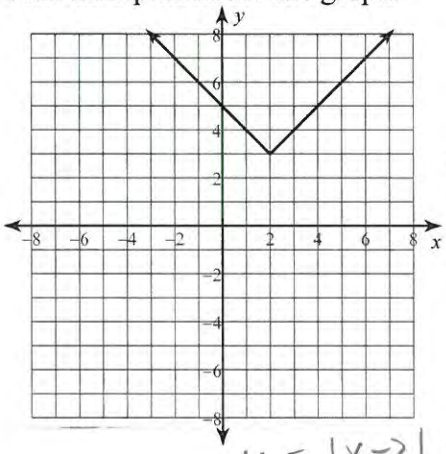


12) $y = 2|x+1|$ → slope

left 1 then



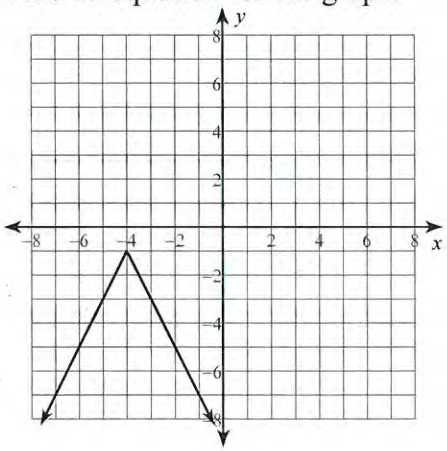
13) Find an equation for the graph.



right 2 up 3

$y = |x-2| + 3$

14) Find an equation for the graph.



left 4

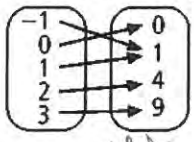
↓ 1

$y = |x+4| - 1$

Name Key Class Date

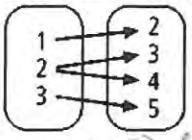
Determine whether each relation is a function.

15. Domain Range



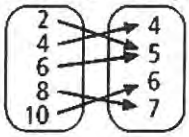
yes

16. Domain Range



no x=2 repeats

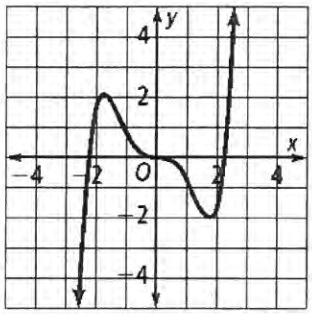
17. Domain Range



yes

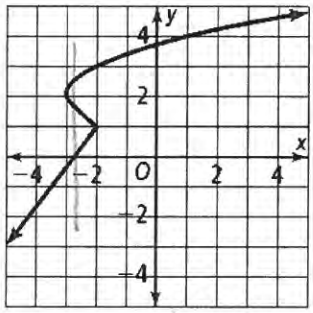
Use the vertical line test to determine whether each graph represents a function.

18.



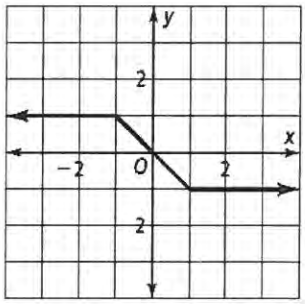
yes

19.



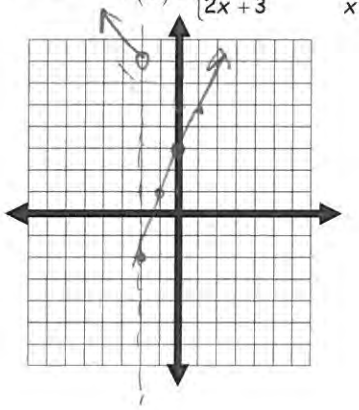
no

20.

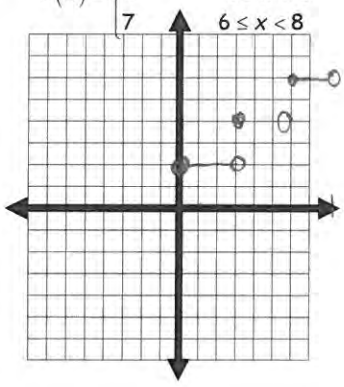


yes

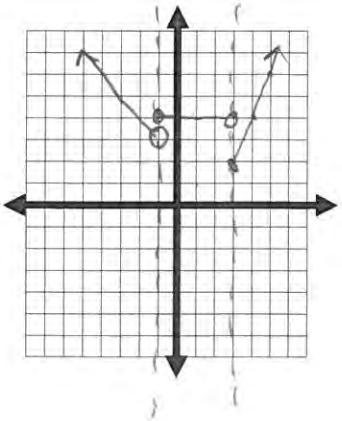
21. Graph. $f(x)=\begin{cases}-x+5 & x<-2 \\ 2x+3 & x\geq -2\end{cases}$ left, right



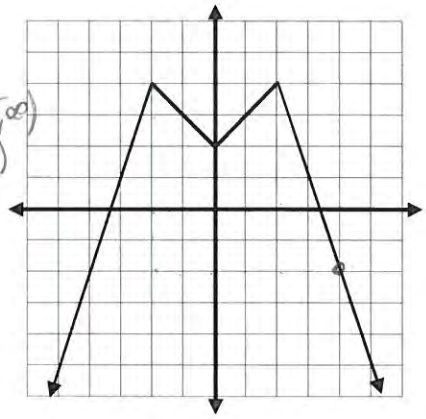
22. $f(x)=\begin{cases}2 & 0\leq x<3 \\ 4 & 3\leq x<6 \\ 7 & 6\leq x<8\end{cases}$



23. Graph. $y=\begin{cases}-x+2 & for\ x<-1 \\ 4 & for\ -1\leq x<3 \\ 2x-4 & for\ x\geq 3\end{cases}$ left, mid, right



24. Given the graph. Find the following.



above x axis
Positive: $(-3.5, 3.5)$
+ slope Increasing: $(-\infty, -2)$ $(0, 2)$
Domain: $(-\infty, \infty)$
Range: $(-\infty, 4]$

below x axis
Negative: $(-\infty, -3.5)$ $(3.5, \infty)$
slope Decreasing: $(2, \infty)$ $(-2, 0)$

X intercepts: $(3.5, 0)$ $(-3.5, 0)$ Y intercepts: $(0, 2)$
Avg rate of change from x=-2 to x=4 $-6/6 = -1$
f(0)= 2 (x, y)
f(3)= 1 (x, y)

25. Graph to solve. $3x - 1 = |x - 3|$.

$X = 1$