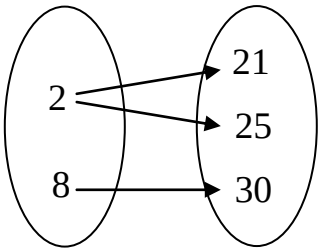
Name _____ Period _____

Algebra 2/Trig Ch 2 Worksheet Review Mrs. Jensen

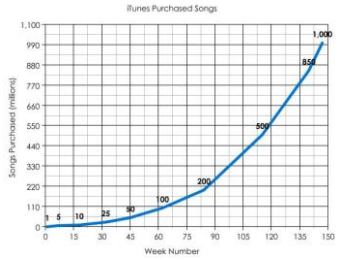
Determine whether each of the following relations is a function.

1.



no

2.



yes

3.

x	y
-3	0
-1	-1
0	0
2	-2
3	4

yes

4. $y = \frac{1}{2}x - 6$

yes

Find the domain and range of #3, and #4.

5. $D = \{\quad\}$ $R = \{\quad\}$

D={-3,-1,0,2,3}
R={0,-1,-2,4}

6. $D = \{\quad\}$ $R = \{\quad\}$

D={all real numbers}
R={all real numbers}

Find the value of each if $f(x) = \frac{5}{x+2}$ ***and*** $g(x) = -2x^2 + 3$

7. $f(-4)$

$f(-4) = \frac{-5}{2}$

8. $g(-4)$

$g(-4) = -29$

9. $f\left(\frac{1}{2}\right)$

10. $g\left(\frac{1}{2}\right)$

$f\left(\frac{1}{2}\right) = 2$

$g\left(\frac{1}{2}\right) = \frac{5}{2}$

Determine if each of the following is a linear function. If not, explain why.

11. $y = 3x$

yes

12. $y = -2 + 5x$

yes

13. $f(x) = 4x^2$

no, because . . .

14. $\frac{1}{3}x = y + 8$

yes

15. $h(x) = \sqrt{x} + 3$

no, because . . .

16. $g(x) = -8$

yes

Write each of the following in standard form:

17. $y = x$

x-y = 0

18. $2y = 3x + 6$

3x – 2y = -6

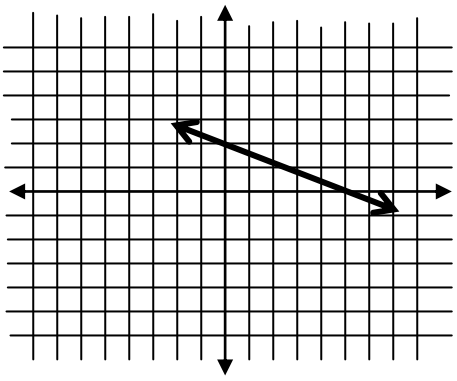
19. $\frac{y}{4} - 3 = 2x$

8x – y = -12

Find the x and y intercept of the function. Then graph the function.

20. $2x + 5y = 10$

when x = 0, y=2 (0,2)
when y = 0, x = 5 (5, 0)



Find the slope of :

21. with y-intercept 2, x-intercept -3

$m = \frac{2}{3}$

22. passing through (-1, -2) and (-3, 7)

$m = \frac{-9}{2}$

Write a linear equation for the following:

23. A line passing through the points (4, 5) and (0, 0)

$$y = \frac{4}{5}x$$

24. A line with slope of $\frac{1}{5}$ and passing through (3, -1)

$$y = \frac{1}{5}x - \frac{8}{5}$$

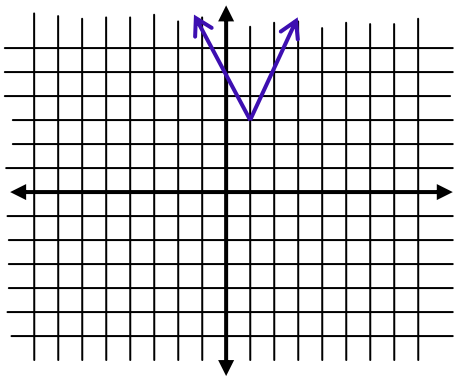
25. A line passing through (3, -1) and perpendicular to y=-3x+2

$$y = \frac{1}{3}x - 2$$

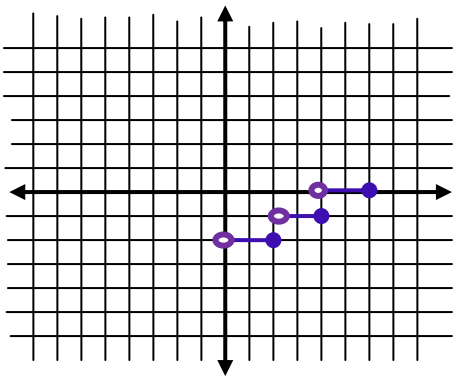
Graph the following:

BY HAND!!

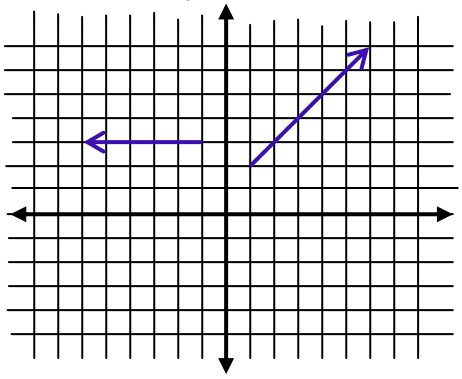
26. $y = 2|x-1|+3$



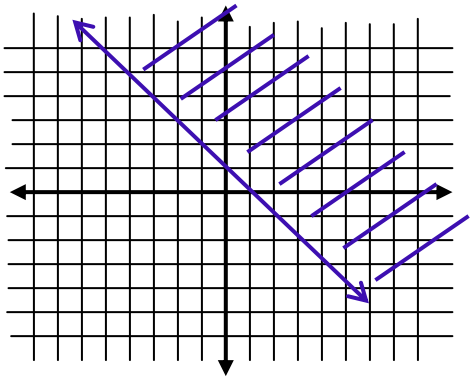
27. $y = \left[\!\left[\frac{1}{2}x\right]\!\right] - 2$



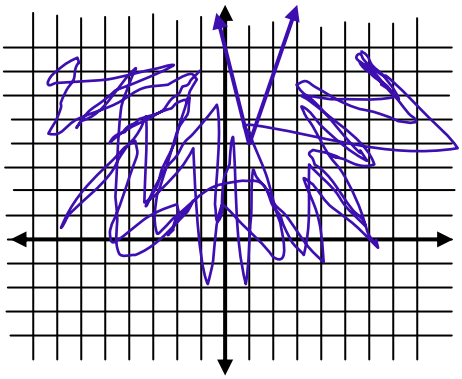
28. $h(x) = \begin{cases} 3 \text{ if } x < -1 \\ x+1 \text{ if } x > 1 \end{cases}$



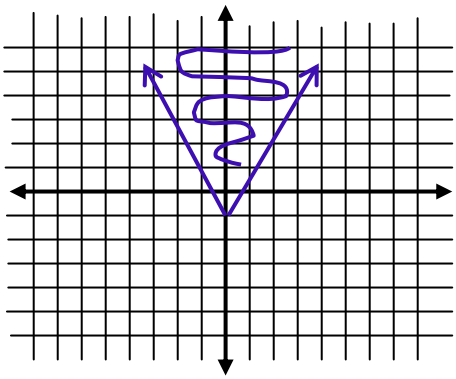
29. $y - 1 \geq -x$



30. $y \leq 3|x-1|+4$



31. $y > |x|-1$



Give the domain and range of #28 and #31

32. $D = \{\quad\}$ $R = \{\quad\}$

33.

32) D={x<-1, x> 1} R={y≥ 2}

33) D={all real} R = {y≥ 1}

Solve the following applications. Make sure to define variables, write an equation or inequality and answer the questions.

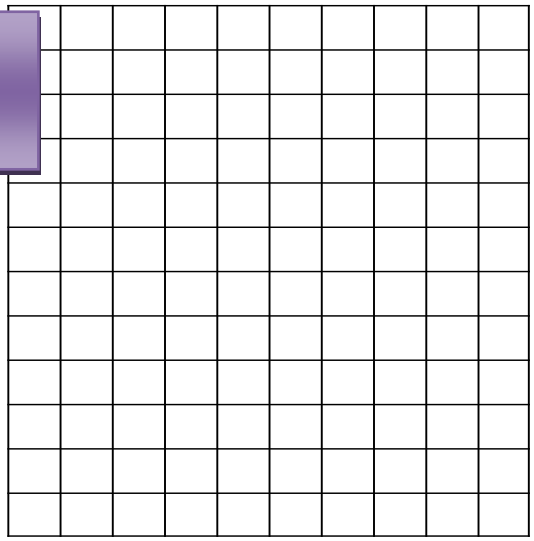
34. A school system is buying new computers. They will buy desktop computers costing $1000 per unit and notebook computers costing $1200 per unit. The total cost the computers cannot exceed $80,000.

Write an inequality that describes this situation.

Graph the inequality.

If the school wants to buy 50 desktop and 25 notebooks, will they have enough money? JUSTIFY!!

SKIP



35. The surface of Grand Lake is at an elevation of 648ft. During the current drought, the water level is dropping at a rate of 3 in per day. If this trend continues, write an equation that gives the elevation in feet of the surface of Grand Lake after x days.

What will the elevation of the lake after 30 days?

a) y=-3x+7776

b) 640.5 ft or 7686inches