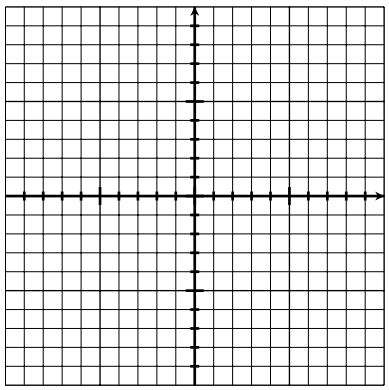
Name _____ Period _____

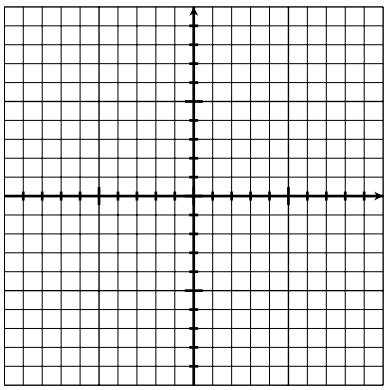
4-4 Practice Worksheet

Model each rule with a table of values and a graph.

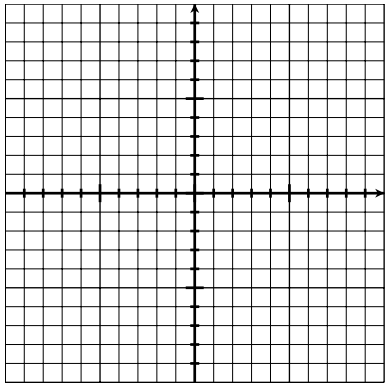
1. $f(x) = -3x + 1$



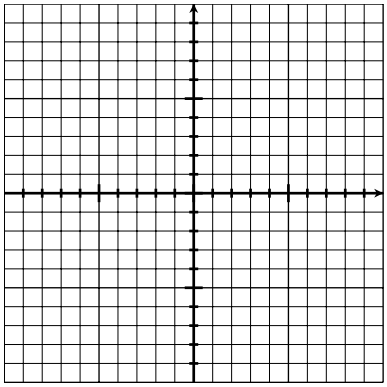
2. $y = 2x - 7$



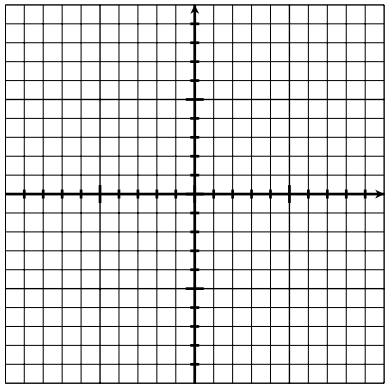
3. $f(x) = 5 - 2x$



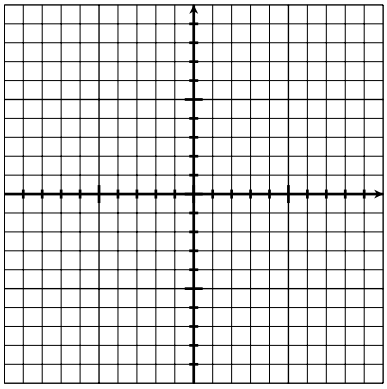
4. $y = \frac{1}{4}x - 3$



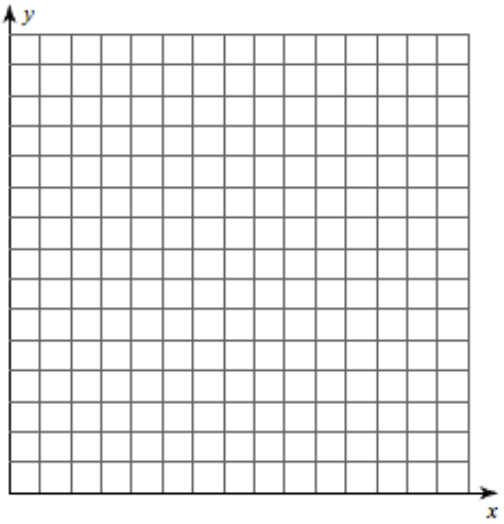
4. $f(x) = -x^2 + 8$



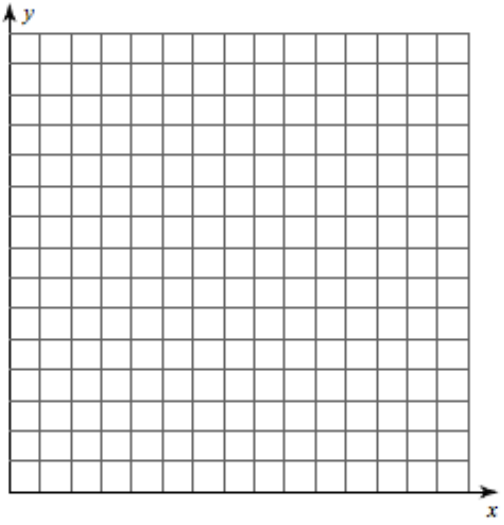
5. $y = |x + 5| + 2$



7. Juan charges $7.50 per hour for baby-sitting.
a) Use the function rule *T(h)=7.50h* to make a table of values.
b) Graph the function.
c) Does the data in the situation represent *CONTINUOUS* or *DISCRETE* data?

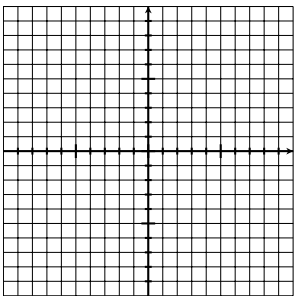


8. Students sell lemonade at a school fundraiser. It costs them $.55 to make each lemonade which they sell for $1.00. The function *P(c)=c – 0.55c* relates the number of cups of lemonade sold *c* to the students' profit *P(c)*.
a) Use the function rule to make a table of values.
b) Graph the function.
c) Does the data in the situation represent *CONTINUOUS* or *DISCRETE* data?



9. The function *s(x)*, sometimes called the signum function, is defined as

$$s(x) = \begin{cases} 1 & if\ x > 0 \\ 0 & if\ x = 0 \\ -1 & if\ x < 0 \end{cases}$$



For example, *s(17)=1, s(0)=0, and s(-32)=-1.*

a) **Evaluate s(3.77), s(0.0003), s(-1.5), s(-23000).**
b) **The domain of the function is all real numbers. What is the range?**
c) **Make a table of values and graph the function.**
d) **Do you think *s(a + b) = s(a) + s(b)?* Test some values of *a* and *b*. If your answer is yes, justify your answer. If your answer is no, give a counterexample.**