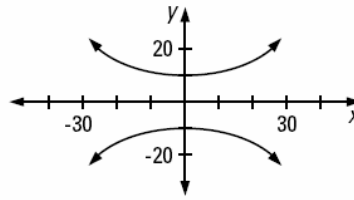


Name: \_\_\_\_\_  
 Topic: Review of Chapter 2

F&S: Period \_\_\_\_\_  
 Date: \_\_\_\_\_

1. Given the following relation



- a. Is this a function?
- b. What is the domain?
- c. What is the range?

2. Given the following functions, identify the domain and range:

a.  $f(x) = \frac{1}{(x+1)^2}$

b.  $f(x) = \sqrt{x+3} - 2$

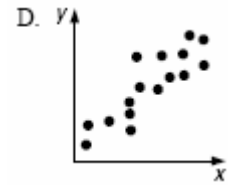
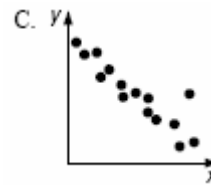
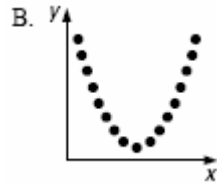
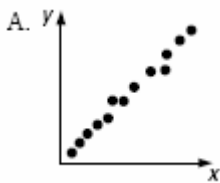
c.  $f(x) = |x - 6|$

3. If  $f(x) = \lceil x+1 \rceil - \lfloor x-.25 \rfloor$ , evaluate:

a.  $f(-4.2)$

b.  $f(2.3)$

4. Arrange the scatterplots below in decreasing order of correlation coefficient.



5. Which equation models the number of dollars  $d$  needed to purchase root beer for  $g$  guests if each pack of 6 root beers cost \$3.29?

a.  $d = 3.29 \left\lceil \frac{-g}{6} \right\rceil$

b.  $d = 3.29 \left\lfloor \frac{g}{6} \right\rfloor$

c.  $d = -3.29 \left\lfloor \frac{g}{6} \right\rfloor$

d.  $d = -3.29 \left\lceil \frac{-g}{6} \right\rceil$

6. A ball is thrown straight upward from ground level with an initial velocity of 25 m/s.
- Find an equation that gives the ball's height  $h$  meters above ground level as a function of time  $t$  seconds after it is thrown.
  - How high will the ball be after 2 seconds?
  - How long after the ball is thrown will it hit the ground?
7. The radioactive isotope actinium 227 decays at a rate of about 3.13% per year. Suppose a 200-milligram sample of actinium 227 is stored in a bottle and left on a laboratory shelf.
- How many milligrams of actinium 227 will be in the bottle after one year?
  - How many milligrams of actinium 227 will be in the bottle after  $y$  years?
8. Given the data below, find a linear, exponential, and quadratic model for these data using the number of years after 1900 as your independent variable. Create a sketch of residuals for each model. Which model do you think is most appropriate and why?

VCRs in U.S. Households	
Year	Millions
1980	1
1985	18
1988	51
1989	68
1990	63
1991	67
1992	69
1993	72
1994	74