Name: _____     Per: _____

| LT 1: Communication<br>LT 2: Patterns/Modeling<br>LT 4: Solving | LT 1 | LT 2 | LT 4 |
|---|---|---|---|
| | | | |

1. *Use the graph below to answer the following questions.*



a. Maximum _____

b. Minimum _____

c. Interval(s) where Increasing _____

d. Interval(s) where Decreasing _____

e. Domain _____

f. Range _____

g. x-intercept (s): _____

h. y-intercept (s): _____

i. f (-1) + f (2) = _____

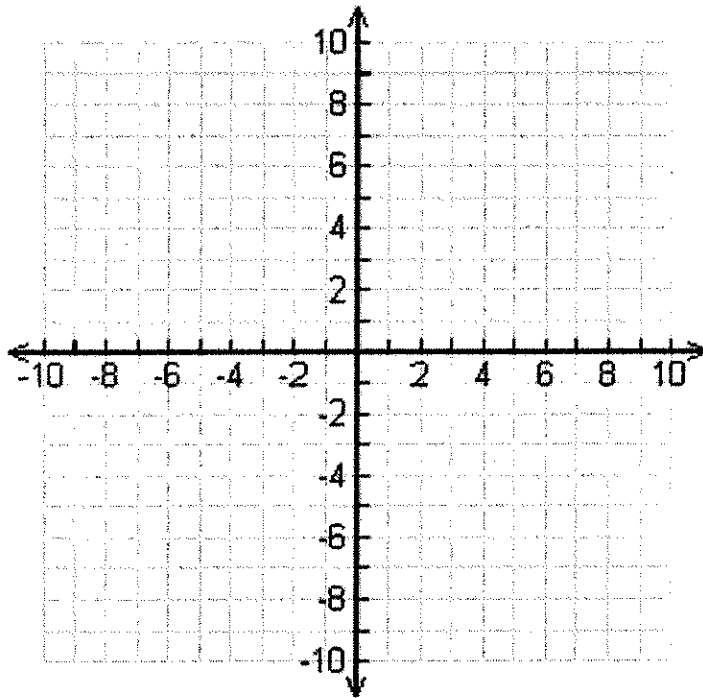j. When f(x) = 4, Find x=

k. Continuous or Discontinuous? Why?

2. Graph each function on the same graph below:

a.  f(x) = (x+2)² -4

d. Write the piecewise function for h(x)

b. $g(x) = |(x+2)^2 - 4|$

c. $h(x) = |(x+2)^2 - 4| - 2$



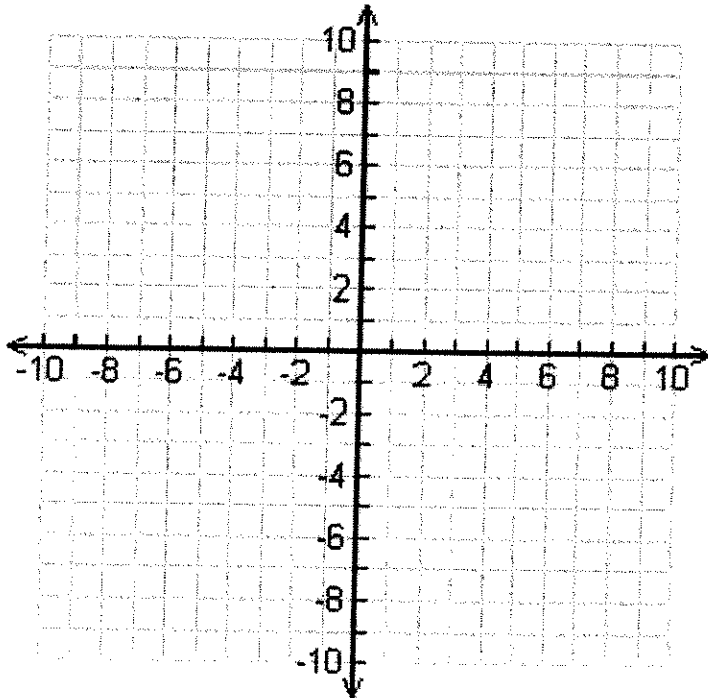3. Using the function $f(x) = |x - 3| + 5$ for the following problems:

a. f (4) = _____

b. f (-5) = _____

c. f(x) = 1, x = _____ and x = _____

d. f(x) = 7, x = _____ and x = _____
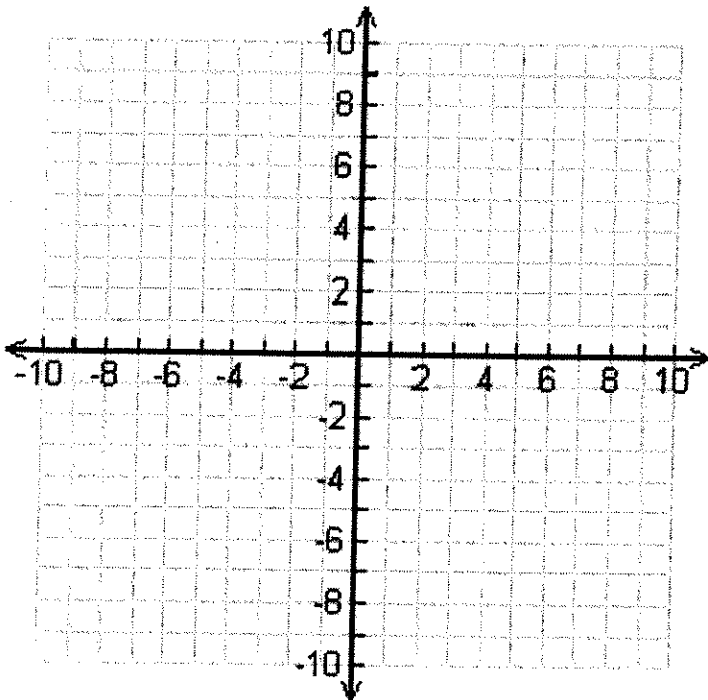
　　　　Name: _____　　　　Per: _____

3. Graph the piecewise function:

$$f(x) = \begin{cases} -2x & x \leq -3 \\ -x + 3 & -3 < x < 0 \\ 3 & x \geq 0 \end{cases}$$



4. Graph the following function and give the piecewise function

$f(x) = |x - 2| - 3$　　　　　　　　　　Piecewise Function:



a.　f(2) = _____

b.　f(6) = _____

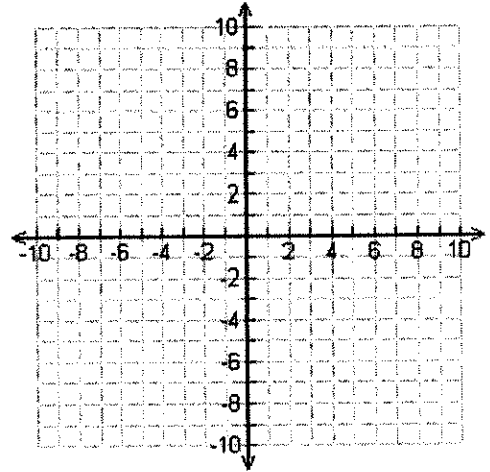AGS 2 Module 4          Name: _____          Per: _____

5. Show the inverses to the following function through equations, tables, and graphs. Please label your graphs showing which is the original function and which is the inverse:

a.  $f(x) = 2x-2$          Inverse:  $f^{-1}(x) =$

| x | f(x) |
|---|---|
| -3 | |
| -2 | |
| -1 | |
| 0 | |
| 1 | |
| 2 | |
| 3 | |

| x | $f^{-1}(x)$ |
|---|---|
| | |
| | |
| | |
| | |
| | |
| | |
| | |



6. Solve each function to find its inverse.

a.  $g(x) = x^2 + 4$          Inverse:  $g^{-1}(x) =$

b.  $h(x) = -3x-6$          Inverse:  $h^{-1}(x) =$

c.  $j(x) = \frac{1}{2}x + 8$          Inverse:  $j^{-1}(x) =$

d.  $p(x) = (1, 2), (3, -1), (9, 7), (-6, 5), (4, \frac{1}{2})$
    Inverse:  $p^{-1}(x) = ( \ , \ ) ( \ , \ ) ( \ , \ ) ( \ , \ ) ( \ , \ )$