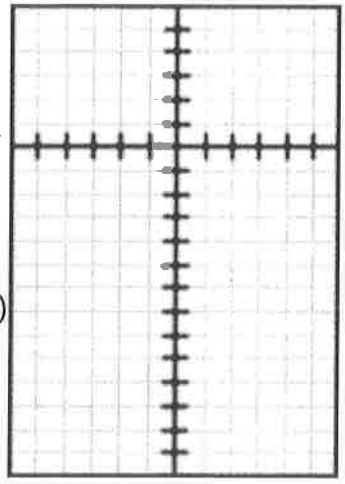
Name:_____ Class:_____ Date:_____

PreAP PreCalculus Bonus Points T2

1. Graph the function. (1 point)

$m(x) = 4 - 2(x + 1)^2$

use this to graph #1 ☞



2. If $b(x) = \sqrt{(x + 1)}$ and $g(x) = 3x + 12$, find the domain of $(b/g)(x)$. (1 point)

3. If $d(x) = x^2 - 1$ and $g(x) = \sqrt{x}$, find the domain of $(d \circ g)(x)$. (1 point)

4. If $h(x) = x^3$ and $p(x) = 1/x$, find the domain of $(h \circ p)(x)$. (1 point)

5. Verify that h(x) and p(x) are inverses. (2 points)

$h(x) = \frac{x + 3}{4}$ $p(x) = 4x - 3$

6. Fill in the blank: $d(x) = |x - 4|$ has an inverse function when the domain is $x \geq$ _____. (2 points)

7. Determine if $k(x) = \frac{x^2 + 2}{7}$ is one-to-one algebraically. (2 points)

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PreAP PreCalculus

Bonus Points Test #1 (10 points max; max grade 100)

Find the domain of the function. (2 points each)

1. $h(x) = \dfrac{3x}{(x+5)^2}$

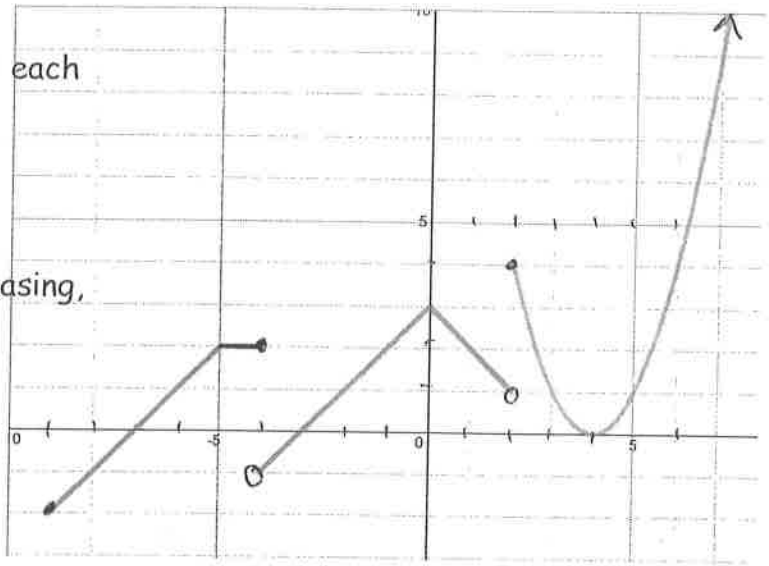
2. $g(x) = \dfrac{\sqrt{x+6}}{6+x}$

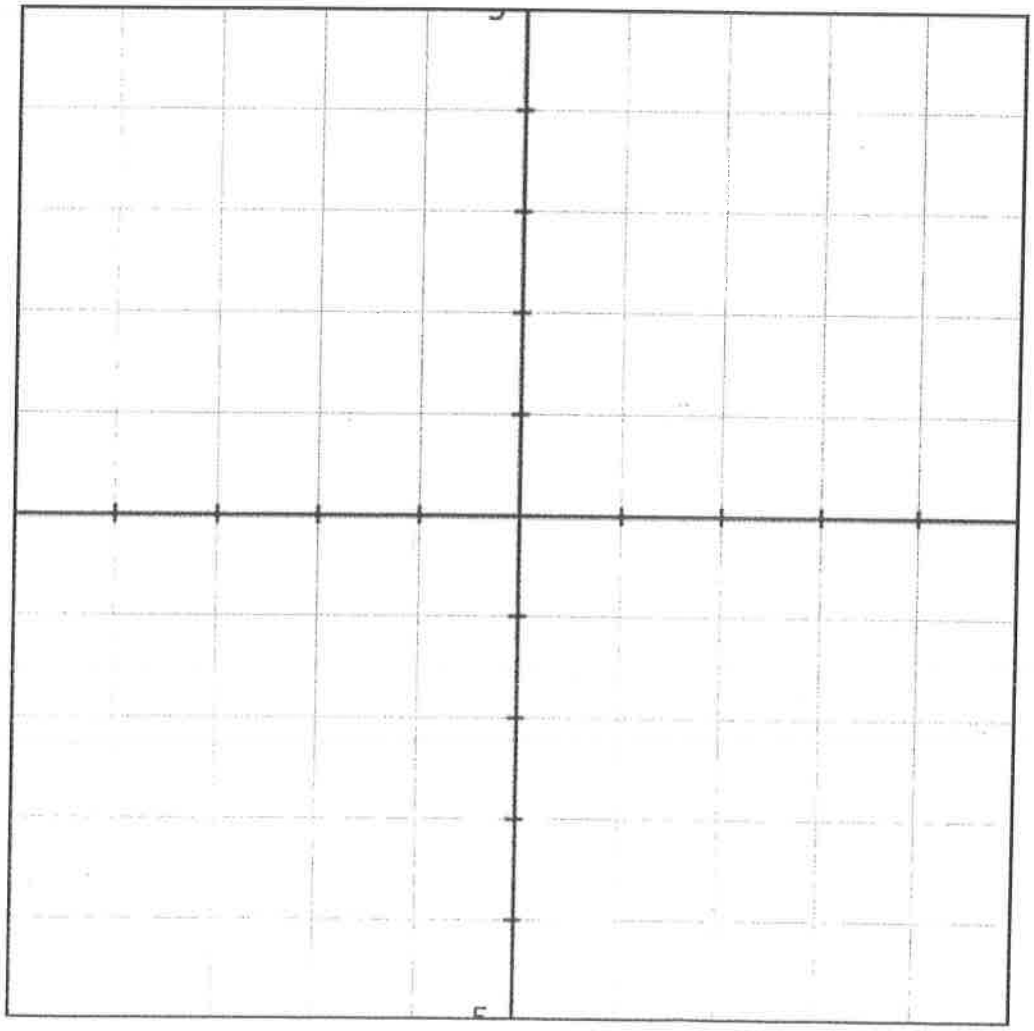
Use the function above to do the following (1 point each problem):

3. Identify the domain and range

4. Identify where the function is increasing, decreasing, or constant

5. Identify the relative extrema (min and max)



Graph the piecewise function. (3 points)

6. $h(x) = \begin{cases} 4 - x^2, & x < -2 \\ 3 + x, & -2 \le x < 0 \\ x^2 + 1, & x \ge 0 \end{cases}$