

ALGEBRA 2 HONORS

Name _____

1.4 – PIECEWISE DEFINED FUNCTIONS

Evaluate the following expressions.

1. Find $f(-2)$ given $f(x) = \begin{cases} -2x-2 & x < -1 \\ x-4 & x \geq -1 \end{cases}$.

2. Find $g(3)$ given $g(x) = \begin{cases} \sqrt{-x} & x \leq 1 \\ 4 & x > 1 \end{cases}$.

3. Find $f(0)$ given $f(x) = \begin{cases} \sqrt{x+2} & x \leq 0 \\ x-3 & x > 0 \end{cases}$.

4. Find $g(0)$ given $g(x) = \begin{cases} -2x-4 & x \leq -1 \\ \sqrt{x+4} & -1 < x \leq 4 \\ -5 & x > 4 \end{cases}$.

Sketch the graph of each of the following piecewise defined functions.

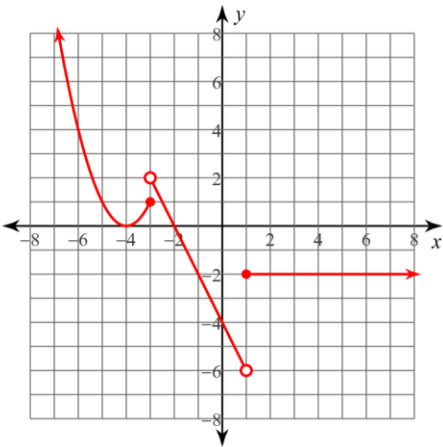
5. $f(x) = \begin{cases} -|x| & x < 3 \\ x-1 & x \geq 3 \end{cases}$

6. $f(x) = \begin{cases} -x-3 & x \leq 0 \\ \frac{1}{x} & x > 0 \end{cases}$

7. $f(x) = \begin{cases} 2\sqrt{x} & x \leq 4 \\ 6 & x > 4 \end{cases}$

8. $f(x) = \begin{cases} -3 & x < -4 \\ x+3 & -4 \leq x < 3 \\ (x-3)^2 & x \geq 3 \end{cases}$

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The graph of $y = f(x)$ is given above. Sketch the graph of $g(x)$, given...

9. $g(x) = 2 \cdot f(x-1)$

10. $g(x) = f(x+2) + 1$