# Honors Precalculus

Name:_____

Chapter 1 PRACTICE TEST

Note: This is just an overview. All topics from the chapter are fair game for the test.

If you need additional space, use an extra sheet and staple it when you turn this in.

1. Find the value of k so the slope between these points is 5/3. $(4, k)\ and\ (-2, -10)$	2. Write the expression (so your answer will continue variables and function notation) for the slope of the line shown.
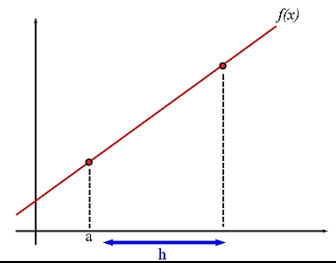
For problems 3-8 below, let $f(x) = 5x + 2$ and $g(x) = x^2 - 3$.

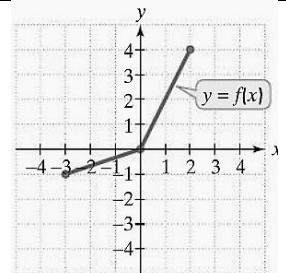|	
3. $f(4)$	4. $g(5) - 11$
5. $f(x - 7)$	6. $f(g(0))$
7. $g - f$	8. $g(f(x))$

9. For the graph shown, state whether
a) it is a function and how you know.

b) it has an inverse function and how you know.

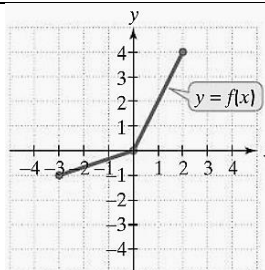|	
10. Use the graph from Problem 9 to state the Domain of $f(x)$: Range of $f(x)$:	11. Use the graph from Problem 9 to State the max and minimum of $f(x)$: Fill in the blank: $f(\ 2\ ) =$ _____ Fill in the blank: $f(\_\_\_\_) = 2$
12. Sketch $g(x)$ if $g(x) = \frac{1}{2}f(x + 1) - 2$	13. Describe in words how the graph of $k(x) = -(x - 3)^2 + 8$ compares to $f(x) = x^2$.

14. Write the equation, in slope-intercept form, for the equation of the line that satisfies the following: $f(1) = 6 \;\; and \;\; f(-3) = 8$	15. In the equation $Ax + 2y = 8$, what would the value of A have to be so the line is perpendicular to $y = \frac{1}{2}x + 3$?

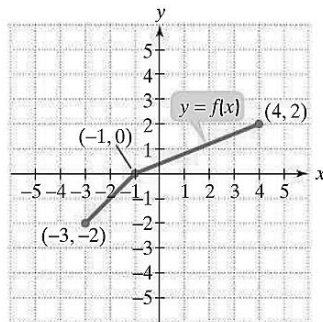16. The function C(x) = 4 + 1.25x represents the cost for downloading x songs.

Find and interpret each (in real-life terms) below.

$C(5) =$

$C^{-1}(x) =$

$C^{-1}(14) =$

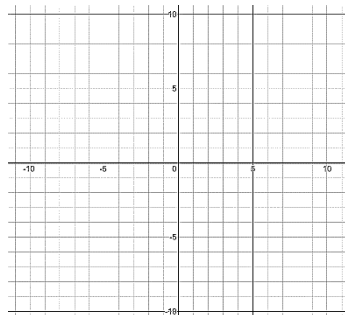|	
17. Sketch the graph of the inverse function, $f^{-1}(x)$.	18. Find the domain of the function h(x). $$h(x) = \frac{x}{x^2 + 12x + 35}$$

19. Find the equation for the line that is parallel to $y = \frac{1}{2}x - 8$ and goes through the point (-4, 5).

20. Graph. $$g(x) = \begin{cases} x + 6, & x \le -4 \\ \frac{1}{2}x - 4, & x > -4 \end{cases}$$	21. For $g(x)$ from problem 20, evaluate. $g(-6) =$ $g(5) =$ $g(-4) =$