Name_____ Group_____ /24

Functions: Square Root Functions

(each question is worth 2 points)

1) Given $f(x) = \frac{1}{2}\sqrt{3x+6} - 3$, find the zero(s).

2) Given $f(x) = -0.8\sqrt{2(2x+3)} - 4$, find the zero(s).

3) Given $g(x) = -0.8\sqrt{(2x-4)} + 20$, for what interval of x is $f(x) > 2$.

4) Given $g(x) = 2\sqrt{(x+4)} - 8$, determine the interval over which the function is positive.

5) Given $f(x) = 2x - 4$, $g(x) = 3\sqrt{4x + 12} + 1$, and $h(x) = f(g(x))$, determine the vertex of $h(x)$.

6) Find the rule of a square root function has a vertex at $(-4, 8)$ and passes through the point $(-13, 20)$.

7) Given $f(x) = 3\sqrt{4x + 2} - 8$, solve for x when $y = -15$.

8) Given $f(x) = -12\sqrt{2(x + 3)} - 16$, solve for y when $x = 11$.

9) Given $f(x) = -3x + 30$ and $g(x) = 12\sqrt{x-4} + 3$, determine the points of intersection between $f(x)$ and $g(x)$.

10) Given $f(x) = 2\sqrt{3x-4} + 8$, determine $f^{-1}(x)$and state the domain and range of f^{-1}.

11) Given $f(x) = 2\sqrt{x-5}$ and $g(x) = 4\sqrt{-(x-10)}$ solve for the intersection point(s) between $f(x)$ and $g(x)$.

12) Given $f(x) = a\sqrt{b(x-h)} + k$
where $a < 0, b > 0, h > 0, k > 0$
Which of the following is true?

a) The domain is $]-\infty, h]$
b) The range is $[k, +\infty[$
c) The function does not have a zero
d) The function does not have a y-intercept