Inverses: Homework

1. Each of the following ordered pairs is a point on a function. State the corresponding point on the inverse relation. (a) (2,5) b) (-5,-6) c) (4,-8) d) f(1) = 2 e) g(-3)=0 f) h(0)=7
2. Consider the function: $f(x) = 2x^3 + 1$
   (a) Determine the ordered pair (4, *f*(4)) on the function.
   (b) Determine the ordered pair on the inverse relation that corresponds to the ordered pair from (a)
   (c) Determine the domain and range of *f*.
   (d) Determine the domain and range of the inverse relation of *f*.
   (e) Is the inverse relation a function?
3. Repeat question #2 for the function $g(x) = x^2 - 8$
4. If $f(x) = kx^3 - 1$ and $f^{-1}(15) = 2$, then find *k*.
5. Given the function : $h(x) = 2x + 7$, determine:

   (a) $h(3)$ (b) $h(9)$ (c) $\dfrac{h(9) - h(3)}{9 - 3}$ (d) $h^{-1}(3)$ (e) $h^{-1}(9)$ (f) $\dfrac{h^{-1}(9) - h^{-1}(3)}{9 - 3}$

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