## Quiz 5.3 – Implicit Differentiation and Inverse Functions

1. (1 pt) alfredLibrary/AUCI/chapter5/lesson3/quiz/implicit21pet.pg Compute the derivative of y for each equation.

(a) If  $y = 4x^3$ , then  $\frac{dy}{dx} =$  \_\_\_\_\_

- (b) If  $x^2 + y^3 = 40$ , then  $\frac{dy}{dx} =$  \_\_\_\_\_\_
- (c) If  $xy^2 = 28$ , then  $\frac{dy}{dx} =$  \_\_\_\_\_.

2. (1 pt) alfredLibrary/AUCl/chapter5/lesson3/quiz-/inversetable1pet.pg

If the function g(x) is defined by the table

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x	-6	-4	-2	0	2	4	6
g(x)	0	-2	2	6	4	-4	-6

then the inverse function  $g^{-1}(x)$  is defined by the table

x	-6	-4	-2	0	2	4	6
$g^{-1}(x)$							

3. (1 pt) alfredLibrary/AUCI/chapter5/lesson3/quiz-/inversesolve1pet.pg The inverse of the function f(x) = 4x - 5 is  $f^{-1}(x) =$