

EG02041 Advanced Mathematics**Feedback Quiz (3): Functions of Several Variables****Total Points: 10****Name:****ID:**

1. **Body Mass Index.** The body mass index is defined by $B(x, y) = 703x/y^2$, where x is weight in pounds and y is height in inches.
 - a) A child weights 65 lb and is 42.7 in tall. Find the child's body mass index.
 - b) Over the next 6 month, the child grows to 77 lb and 49.5 in. Use linearization to estimate the child's new body mass index.

2. Compute the Jacobian of f and g .

$$f(x, y) = x + 3y, g(x, y) = x - 2y$$