1. evaluate $g(6, 3, 1)$ if $g(a, b, c) = \dfrac{b^2 - 3ac + c^2}{a + b + c}$

$$g(6, 3, 1) = \frac{-4}{5} = -0.8$$

2. Find the domain of the function.

$$f(x, y, z) = \frac{\sqrt{y}}{x - 5z}$$

all the points (x, y, z) such that $y \geq 0$ and $x \neq 5z$

3. A booth at the fair sells turkey legs(b) and saussage on a stick(a). The daily price-demand functions for the turkey legs(j) and the saussage on a stick (k) are

$$k = 80 - a - 2b \qquad\qquad j = 90 - 2a - b$$

Give the formula for the revenue function.

$$R(b, a) = b * j + a * k = b(90 - 2a - b) + a(80 - a - 2b)$$

or

$$R(a, b) = 90b - 2ab - b^2 + 80a - a^2 - 2ab = 90b - 4ab - b^2 + 80a - a^2$$