

1. evaluate $g(5, 2, 1)$ if $g(a, b, c) = \frac{c^2 + 3ac + 4b}{a + 2b + c}$

$$g(5, 2, 1) = \frac{24}{10} = 2.4$$

2. Find the domains of $f(x, y, z) = \frac{\ln(x - 6)}{z - 3y}$

all the points (x, y, z) such that $x > 6$ and $z \neq 3y$

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

$$k = 120 - a - 3b \qquad j = 110 - 3a - b$$

Give the formula for the revenue function.

$$R(b, a) = b * j + a * k = b(110 - 3a - b) + a(120 - a - 3b)$$

or

$$R(a, b) = 110b - 3ab - b^2 + 120a - a^2 - 3ab = 110b - 6ab - b^2 + 120a - a^2$$