

Math 111 Quiz #8 Answers

1. (a) $f(x) - g(x) = 0$ for x -values at which $f(x)$ and $g(x)$ intersect \Rightarrow $x = -3$, and $x = 1$.

(b) $f(x) - g(x) < 0$ when $g(x)$ is greater than $f(x)$. This is the interval $-3 < x < 1$.

(c) Since $f(-5)$ is positive and $g(-5)$ is negative, $f(x) \cdot g(x)$ is negative at $x = -5$.

2. Power Function: $y = kx^p$

Plugging in the first point: $4 = k(1)^p \Rightarrow 4 = k$

Plugging in the second point: $36 = 4(3)^p \Rightarrow 9 = 3^p \Rightarrow p = 2$

So, the equation is $y = 4x^2$.

3. (a) III

(b) IV

(c) VI

(d) II

(e) I

(f) V