

Quiz7, MAT 1375 Professor Chiu

ID: _____

Name: _____

- This quiz consists of 2 sets of questions, each worth 5 points, for a total of 10 points.
- You have 10 minutes to complete the quiz.
- Scientific calculators are allowed.
- Wishing you success.

True or False questions:

1. _____ Let $f(x) = 7\sqrt{x}$ and $g(x) = 5\sqrt{x}$. Then the domain of $(f + g)(x)$ is $[0, \infty)$.
2. _____ Let $f(x) = 3x + 6$ and $g(x) = 2x - 8$. Then the domain of $\left(\frac{f}{g}\right)(x)$ is $(-\infty, 4) \cup (4, \infty)$.
3. _____ Let $f(x)$ and $g(x)$ be two functions. Then $D_{f-g} = D_f \cap D_g$.
4. _____ The composition of the function f with function g is defined by $(f \circ g)(x) = f(g(x))$.
5. _____ Let $f(x)$ and $g(x)$ be two functions. Then $(f \circ g)(x) = (g \circ f)(x)$.

Show all your work and justify your answer:

6. Let $f(x) = x + 2$ and $g(x) = x^2 - 5x + 4$. Find $\frac{f}{g}$ and state its domain.