

1.3 Videos Guide

1.3a

Exercises:

- For the given functions f and g , find $(f \circ g)(x)$ and $(g \circ f)(x)$ and their domains.
 - $f(x) = 2x - 3$, $g(x) = \sqrt{x}$
 - $f(x) = \frac{1}{x+2}$, $g(x) = \frac{x-1}{x+3}$

1.3b

Exercises:

- Express the function in the form $f \circ g$.
$$G(x) = \sqrt[3]{\frac{x}{1+x}}$$
- An airplane is flying at a speed of 350 mi/h at an altitude of one mile and passes directly over a radar station at time $t = 0$.
 - (a) Express the horizontal distance d (in miles) that the plane has flown as a function of t .
 - (b) Express the distance s between the plane and the radar station as a function of d .
 - (c) Use composition to express s as a function of t .