

1. p65e06-0 - Halla el dominio de las siguientes funciones:

(a)  $f(x) = 0x - 3$

**Sol:**  $Dom(f) = \mathbb{R}$

(b)  $f(x) = x^3 - 5x^2 + 2$

**Sol:**  $Dom(f) = \mathbb{R}$

(c)  $f(x) = \frac{x-1}{x+5}$

**Sol:**  $Dom(f) = (-\infty, -5) \cup (-5, \infty)$

(d)  $f(x) = 7x - 1$

**Sol:**  $Dom(f) = \mathbb{R}$

(e)  $f(x) = \frac{2}{x}$

**Sol:**  $Dom(f) = (-\infty, 0) \cup (0, \infty)$

(f)  $f(x) = \sqrt[3]{\frac{x+1}{x-2}}$

**Sol:**  $Dom(f) = (-\infty, 2) \cup (2, \infty)$

(g)  $f(x) = \sqrt{x^2 - 9}$

**Sol:**  $Dom(f) = (-\infty, -3] \cup [3, \infty)$

(h)  $f(x) = \sqrt{x+3}$

**Sol:**  $Dom(f) = [-3, \infty)$

2. p65e17-0 - Dadas las funciones  $f(x) = x^2 + 5$ ,  $g(x) = \frac{x-1}{x+3}$  y  $h(x) = \sqrt{x}$ . Calcula:

(a)  $g \circ f$

**Sol:**  $g(f(x)) = \frac{x^2+4}{x^2+8}$

(b)  $f \circ g$

**Sol:**  $f(g(x)) = \frac{(x-1)^2}{(x+3)^2} + 5$

(c)  $h \circ g \circ f$

$$\mathbf{Sol:} \quad h(g(f(x))) = \frac{\sqrt{x^2+4}}{\sqrt{x^2+8}}$$