35 p 96 $f(x) = \frac{x}{x^2+1}$

$x^2+1 \neq 0$

$D = (-\infty, \infty)$

75) $f(x) = x^2 - x + 4$

$f(x+h) = (x+h)^2 - (x+h) + 4$

$x^2+2xh+h^2-x-h+4$

	x	h
x	x^2	xh
h	xh	h^2

$\frac{f(x+h) - f(x)}{h}$

$\frac{(x^2+2xh+h^2-x-h+4) - (x^2-x+4)}{h}$

$\frac{x^2+2xh+h^2-x-h+4-x^2+x-4}{h}$

$\frac{2xh+h^2-h}{h} = \frac{h(2x+h-1)}{h}$

$= 2x+h-1$

61) $f(x) = 2x^2 - x - 1$

a) $f(-1) = 2(-1)^2 - (-1) - 1$

$= 2 + 1 - 1 = 2$

Yes

b) $f(-2) = 2(-2)^2 - (-2) - 1$

$= 2 \cdot 4 + 2 - 1 = 9$

$(-2, 9)$

c) $-1 = 2x^2 - x - 1$

$0 = 2x^2 - x$

$0 = x(2x-1)$

$x = 0 \quad x = \frac{1}{2}$

$(0, -1), \left(\frac{1}{2}, -1\right)$

d) $D = (-\infty, \infty)$

e)