Pg 25, #36 $f(x) = \sqrt{x+8} + 2$

a) $f(-4) = \sqrt{-4+8} + 2 = \sqrt{4} + 2 = \boxed{2}$

b) $f(8) = \sqrt{8+8} + 2 = \sqrt{16} + 2 = \boxed{6}$

c) $f(x-8) = \sqrt{(x-8)+8} + 2 = \boxed{\sqrt{x} + 2}$

Pg 25, #39 $f(x) = |x|/x$

a) $f(9) = |9|/9 = 9/9 = \boxed{1}$

b) $f(-9) = |-9|/(-9) = 9/(-9) = \boxed{-1}$

c) $f(t) = \boxed{|t|/t}$

Pg. 25, #60 Find the domain of $s(y) = 3y/(y+5)$

Since division by zero is undefined, $y \neq -5$.

The domain of s is all real numbers except -5.

Pg. 28, #85 Given: $f(x) = x^2 - x + 1$

Find: $\dfrac{f(2+h) - f(2)}{h} = \dfrac{(2+h)^2 - (2+h) + 1 - (2^2 - 2 + 1)}{h}$

$$= \frac{4 + 4h + h^2 - 2 - h + 1 - (4 - 2 + 1)}{h}$$

$$= \frac{3 + 3h + h^2 - 3}{h}$$

$$= \frac{3h + h^2}{h}$$

$$= \frac{h(3+h)}{h}$$

$$= \boxed{3+h}$$