

Pg. 148, #19 $f(x) = 2x^2 / (x^2 + x - 6)$

VA: Solve $x^2 + x - 6 = 0 \Rightarrow (x+3)(x-2) = 0 \Rightarrow \boxed{x = -3}, \boxed{x = 2}$

HA: Note that $n=m$, so $\boxed{y = 2}$

Pg. 148, #22 $f(x) = (x^2 + 2x + 1) / (2x^2 - x - 3)$

Note: $f(x) = (x+1)(x+1) / [(2x-3)(x+1)]$

Common factor of $x+1$, so hole at $\boxed{x = -1}$.

VA: Solve $2x - 3 = 0 \Rightarrow \boxed{x = 3/2}$

HA: Note that $n=m$, so $\boxed{y = 1/2}$

Pg. 148, #25 $f(x) = (5x^2 - 2x - 6) / (x^2 + 4)$

a) Since $x^2 + 4 = 0$ has no real solutions,there is no division by 0. Domain: $\boxed{\text{All real \#s}}$ b) f is $\boxed{\text{continuous}}$.

c) VA: none (see part (a))

HA: Since $n=m$, $\boxed{y = 5}$

Pg. 148, #29 $f(x) = (x^2 - 16) / (x - 4)$; $g(x) = x + 4$

c)

x	1	2	3	4	5	6	7
$f(x)$	5	6	7	-	9	10	11
$g(x)$	5	6	7	8	9	10	11

a) Domain of f : All real #s except $x = 4$ Domain of g : All real #sb) VA: None. Hole in f at $x = 4$ 