d) $y = \frac{x^2+6x-7}{x+2}$ $y = \frac{(x+7)(x-1)}{(x+2)}$

denom npv
$x+2 \neq 0$
$x \neq -2$
vertical asympt.

NO Holes

Horizontal Asympt.
$\deg p(x) > \deg q(x)$
We have an oblique asymptote.

$$\begin{array}{r|ccc} -2 & 1 & 6 & -7 \\ & \downarrow & -2 & -8 \\ \hline & 1 & 4 & -15 \end{array}$$

$(x+4) \quad \frac{-15}{x+2} \Rightarrow 0$

oblique asympt is $y = x+4$

e) $y = \frac{x+2}{x^2+6x-7}$ $y = \frac{x+2}{(x+7)(x-1)}$

npv $x \neq -7$ and $x \neq +1$

Vertical asymp $x = -7$

Vertical asympt. $x = 1$

$\deg p(x) < \deg q(x)$
$y = 0$ Horizontal Asympt

f) $y = \frac{6}{x+3}$

npv $x \neq -3$
This gives us
Vertical asymptote.
$x = -3$

No Holes.

Horizontal asympt.

$\deg p(x) < \deg q(x)$
therefore $y = 0$ is the
Horizontal asymptote.

Assignment Time! Work on p.104- 1 – 3
p.114- 4a)andb), 5, 6, 9 (omit graphs A and F), 10 i) and ii), MC 2