p442, q5

5. Write each function in the form $y = \frac{a}{x-h} + k$. Determine the location of any asymptotes and intercepts. Then, confirm your answers by graphing with technology.

a) $y = \frac{11x+12}{x}$

b) $y = \frac{x}{x+8}$

c) $y = \frac{-x-2}{x+6}$

a) $y = \frac{11x+12}{x} = \frac{11(x)+12}{x} = 11 + \frac{12}{x} = \boxed{\frac{12}{x-0} + 11}$

b) $y = \frac{x}{x+8} = \frac{x+8-8}{x+8} = \frac{x+8}{x+8} - \frac{8}{x+8} = 1 - \frac{8}{x+8} =$

$= \boxed{\frac{-8}{x+8} + 1}$

$+6 \qquad -6 \rightarrow +6$

c) $\frac{-x-2}{x+6} = \frac{-(x)-2}{x+6} = \frac{-(x+6)+6-2}{x+6} =$

$= \frac{-(x+6)}{x+6} + \frac{4}{x+6} = \boxed{\frac{4}{x+6} - 1}$

→//