Problem 8: Let $R(x) = \dfrac{3-2x}{x+1}$.

(a) List all the asymptotes of $R(x)$.

$x = -1$ VERTICAL ASYMPTOTE

$y = -2$ HORIZONTAL ASYMPTOTE

(b) Show how to obtain R as the shift of a known graph

$$R(x) = \frac{3-2[(x+1)-1]}{x+1} = \frac{3+2-2(x+1)}{x+1}$$

$$= \frac{5}{x+1} - 2 = 5f(x+1) - 2 \quad \text{where } f(x) = \frac{1}{x}$$

(c) Sketch the graph $y = R(x)$.