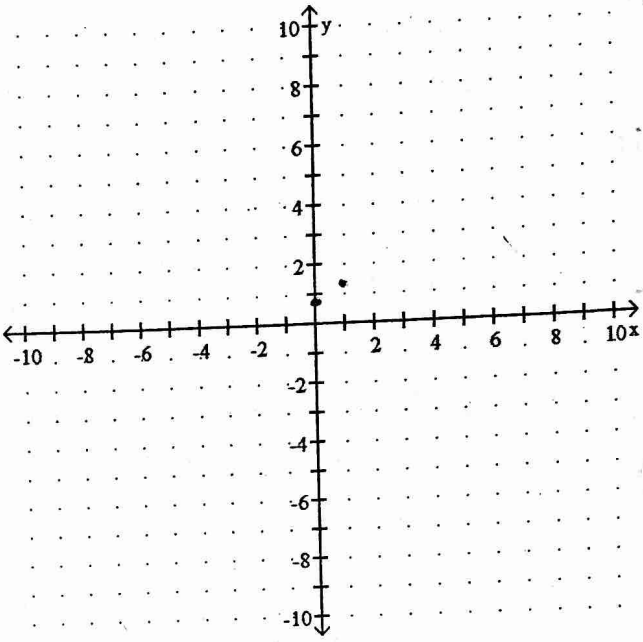


3. Answer the following questions about the graph of the rational function $g(x) = \frac{x+4}{x+3}$

[2] +1	State the domain (use interval notation) $\{x: x \neq -3\}$	Use ALL the information on the left to sketch the graph of $g(x)$: 
[2] +1	Find the vertical asymptote(s), if any: $x = -3$	
[2] +0	Find the horizontal asymptote(s), if any: $y = -4$	
[2] +0	List the intercepts, if any. Write them as ordered pairs: no intercepts	
[4] +1	Find two other points on the graph: $(0, \frac{4}{3}), (1, \frac{5}{4})$	

4. Solve the following equations:

$$\sqrt{x-2} = x-4$$

$$\text{Solution(s): } \cancel{x=3}, x=6 \quad [4]$$

+3

$$x-2 = x^2-8x+16$$

$$= x^2-9x+18, (x-3)(x-6), x=3, x=6$$

$$x^{-2} - 4x^{-1} - 12 = 0$$

$$(x^{-1} + 2)(x^{-1} - 6) \quad x = \frac{1}{2}, x = \frac{1}{6}$$

$$\text{Solutions(s): } \cancel{x = \frac{1}{2}}, x = \frac{1}{6} \quad [4]$$

+3

$$5 - 2\log_2 x = 1$$

$$\text{Solution: } \cancel{x = \sqrt{\frac{4}{\log_2(2)}}} \quad [4]$$

+0

$$-2\log_2 x = -4$$

$$2\log_2 x = 4, \log_2 x^2 = 4$$

$$x^2 = \frac{4}{\log_2(2)}, x = \sqrt{\frac{4}{\log_2(2)}}$$