Sections 2.6 & 2.7 – I.C.E #3

Part A: For #1 – 4, be sure to use a sign chart to find the appropriate intervals for your solution set:

1) Solve $x^2 + 5x < 36$ and answer using interval notation

2) Solve $\frac{5(x-5)}{x+5} \geq 0$ and answer using interval notation

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3) Solve $\frac{x^2-6x-27}{x^2-6x+9} \leq 0$ and answer using interval notation

4) Solve $\frac{6}{x-4} - \frac{2}{x+4} > 0$ and answer using interval notation

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Part B: Find all horizontal, slant, and vertical asymptotes for each function. Be sure to state your answers as equations of lines. Also find all x and y-intercepts and draw a sketch of the graph. Label where the asymptotes and the intercepts are located on your graph.

1) $f(x) = \dfrac{2x}{x^2 - 9}$

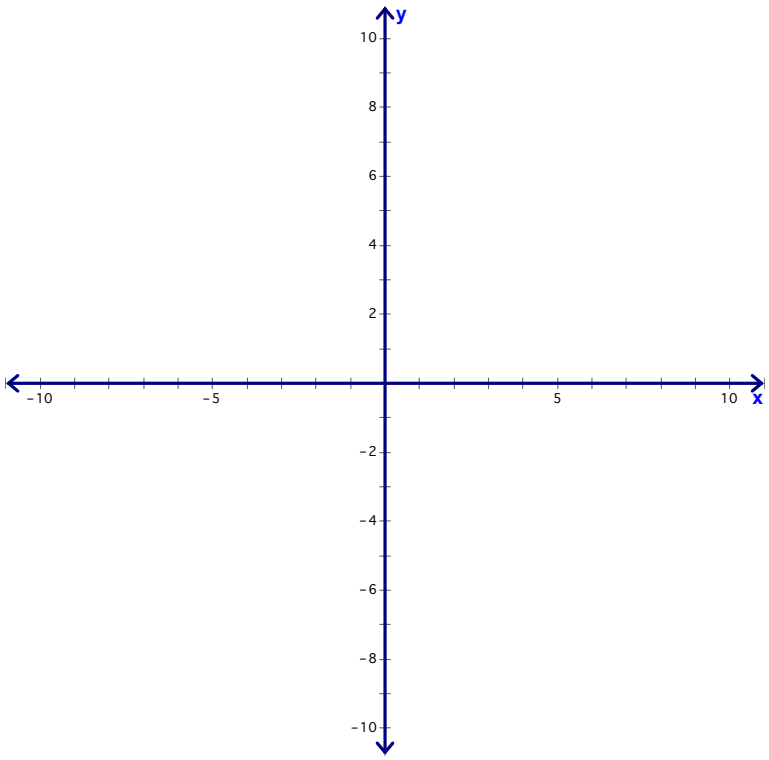
Hole? _____

VA: _____

HA or SA: _____

x-int: _____

y-int: _____



2) $f(x) = \dfrac{-2x^2}{x^2 + 3x - 4}$

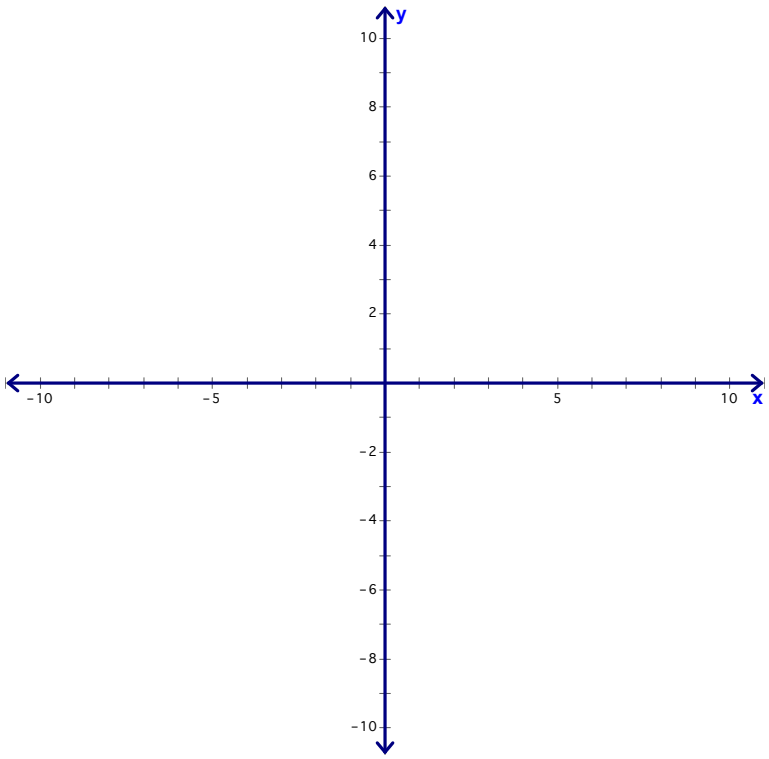
Hole? _____

VA: _____

HA or SA: _____

x-int: _____

y-int: _____



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3) $f(x)=\dfrac{x^2-6x+5}{x^2-9x+20}$

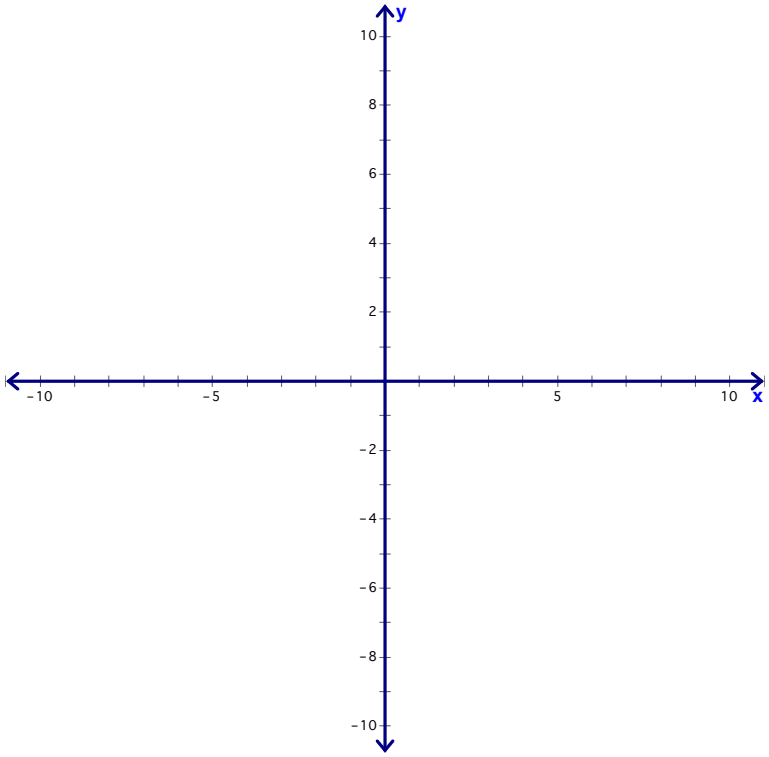
Hole? _____

VA: _____

HA or SA: _____

x-int: _____

y-int: _____



4) $f(x)=\dfrac{2x^2+x}{x+1}$

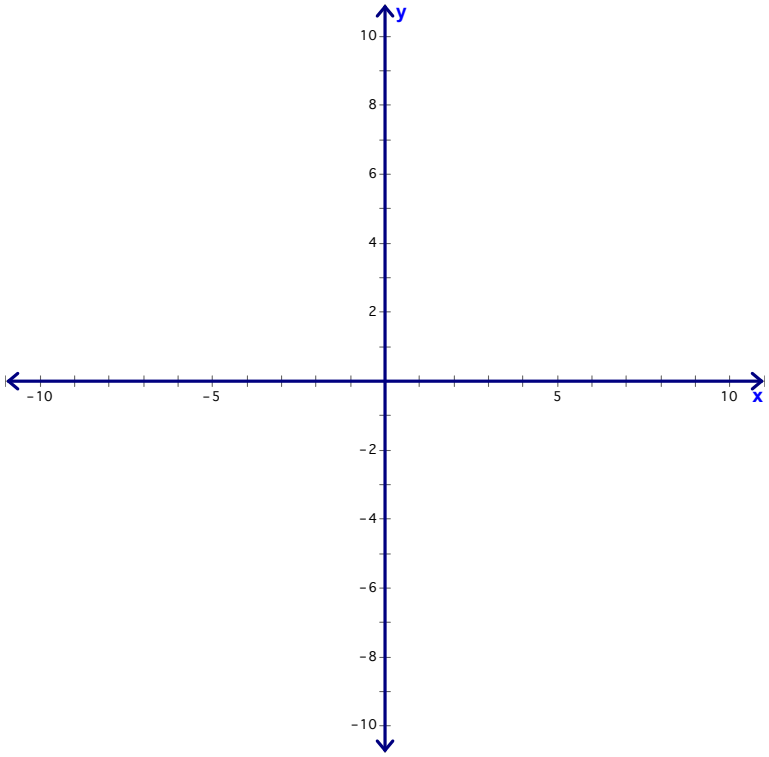
Hole? _____

VA: _____

HA or SA: _____

x-int: _____

y-int: _____



Sections 2.6 & 2.7 – I.C.E #3

5) $h(x) = \dfrac{x-6}{x^3-27}$

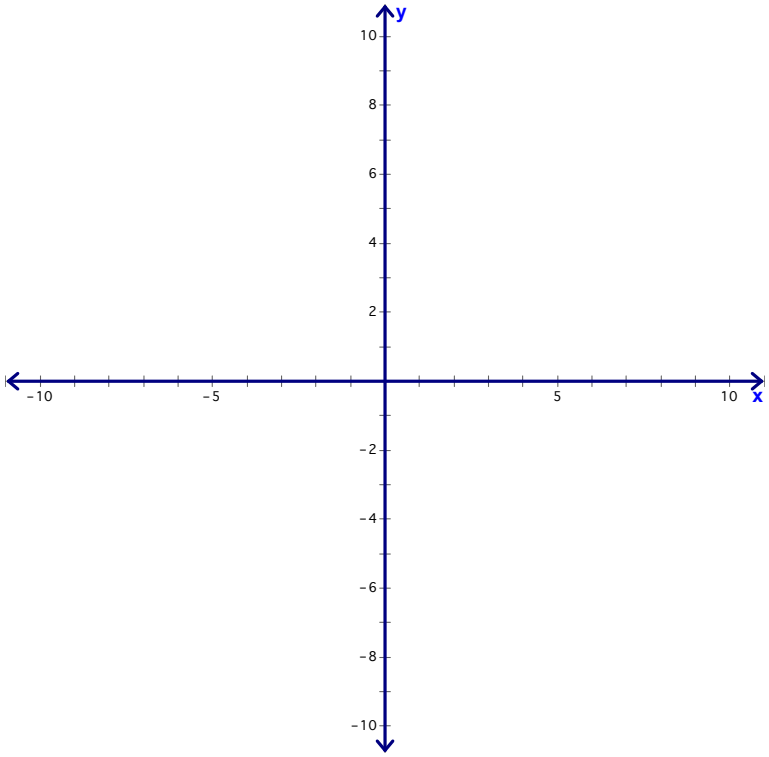
Hole? _____

VA: _____

HA or SA: _____

x-int: _____

y-int: _____



6) $k(x) = \dfrac{3x^2}{3x^2-9}$

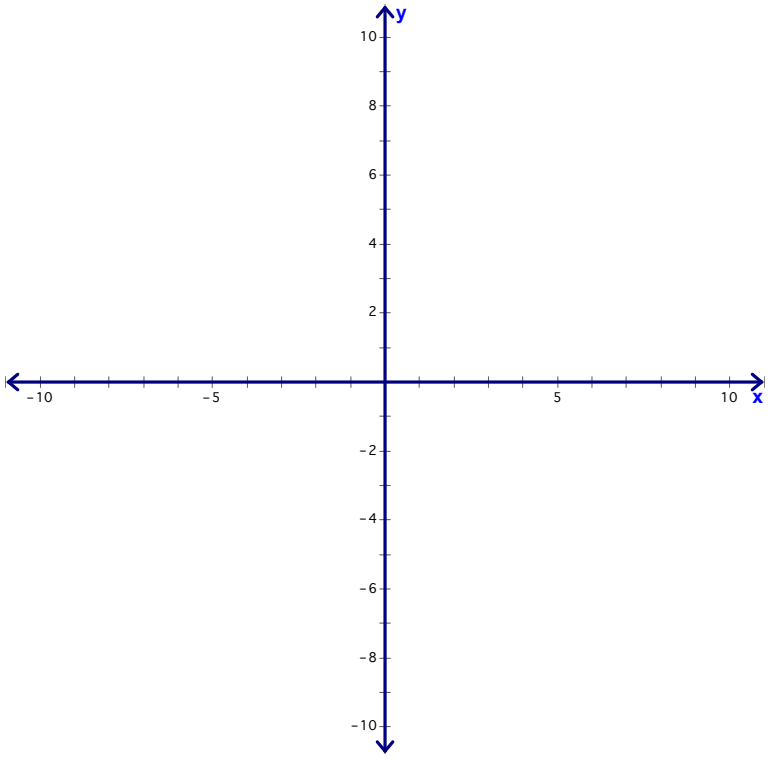
Hole? _____

VA: _____

HA or SA: _____

x-int: _____

y-int: _____



Sections 2.6 & 2.7 – I.C.E #3

7) $h(x) = \dfrac{x^2 + 8x + 15}{x + 4}$

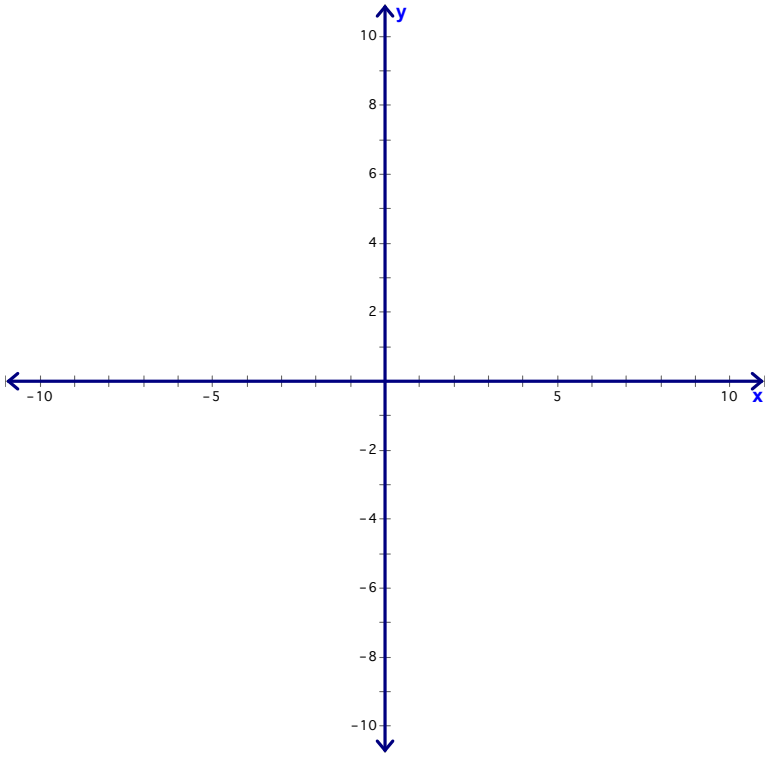
Hole? _____

VA: _____

HA or SA: _____

x-int: _____

y-int: _____



8) $q(x) = \dfrac{4}{x^2 + 4x}$

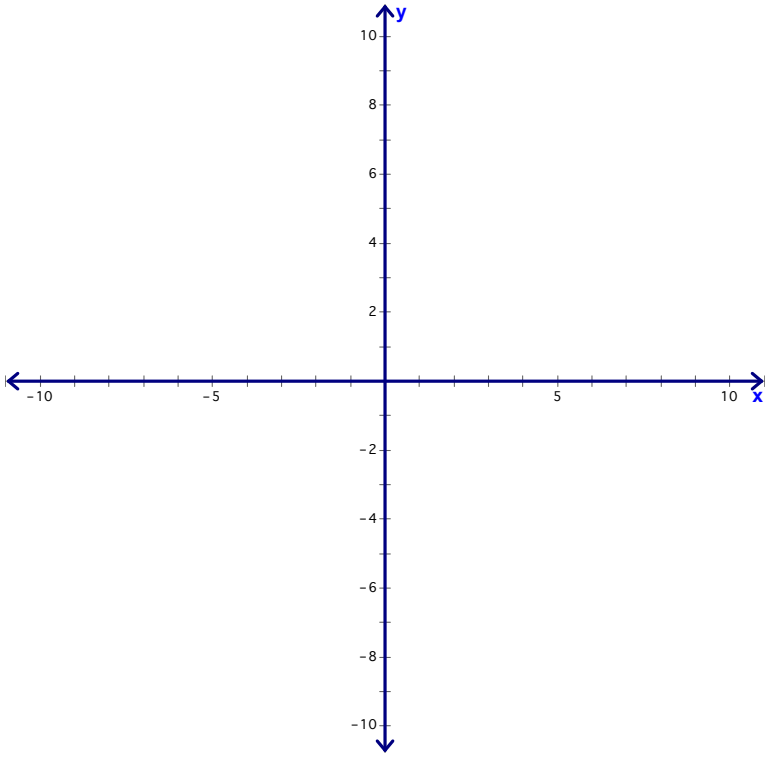
Hole? _____

VA: _____

HA or SA: _____

x-int: _____

y-int: _____



Sections 2.6 & 2.7 – I.C.E #3

9) $g(x) = \dfrac{5x^2}{x-9}$

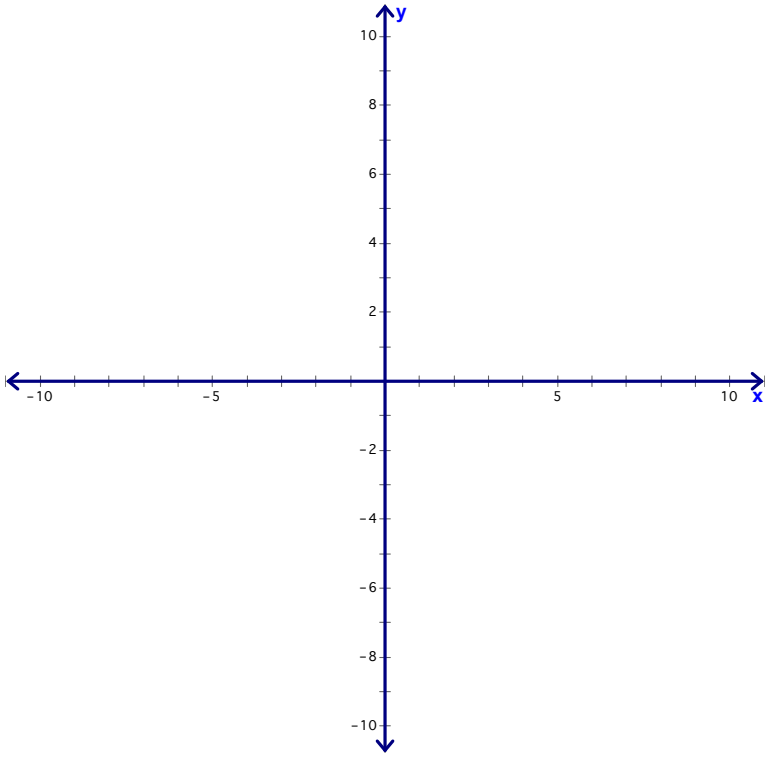
Hole? _____

VA: _____

HA or SA: _____

x-int: _____

y-int: _____



10) $g(x) = \dfrac{x^2-9}{3x-9}$

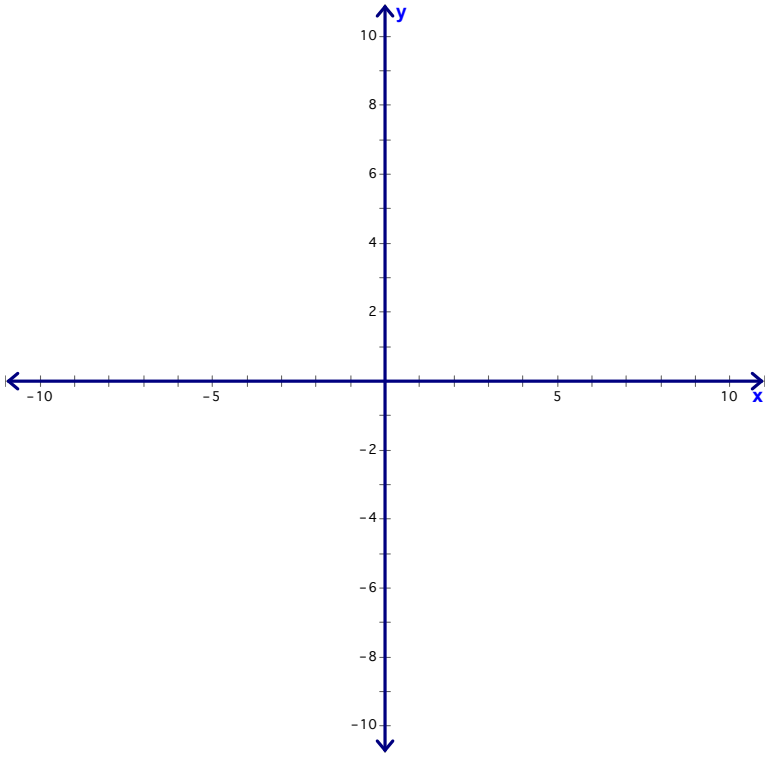
Hole? _____

VA: _____

HA or SA: _____

x-int: _____

y-int: _____



Sections 2.6 & 2.7 – I.C.E #3

11) $f(x)=\dfrac{x+2}{2x-2}$

Hole? _____

VA: _____

HA or SA: _____

x-int: _____

y-int: _____