Sections 2.6 & 2.7 – I.C.E

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) $f(x)=\dfrac{x}{x-3}$

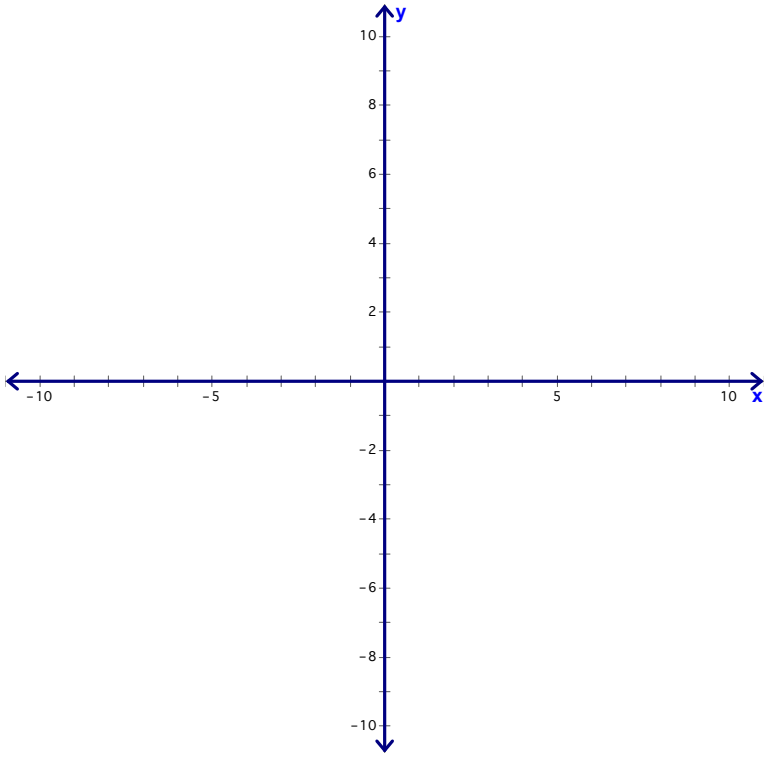
Hole? _____

VA: _____

HA or SA: _____

x-int: _____

y-int: _____



2) $f(x)=\dfrac{-x^2}{x^2-16}$

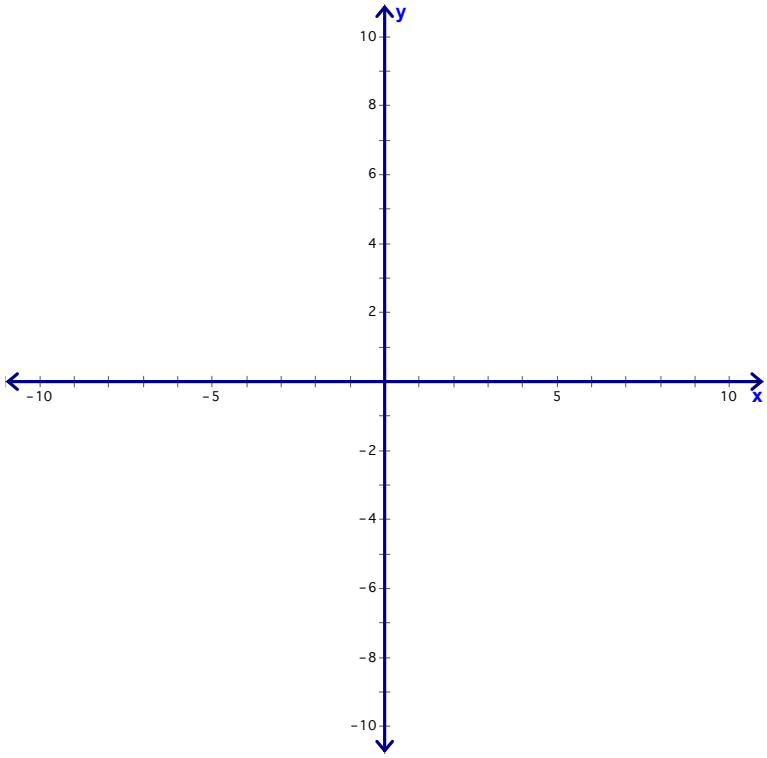
Hole? _____

VA: _____

HA or SA: _____

x-int: _____

y-int: _____



Sections 2.6 & 2.7 – I.C.E

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

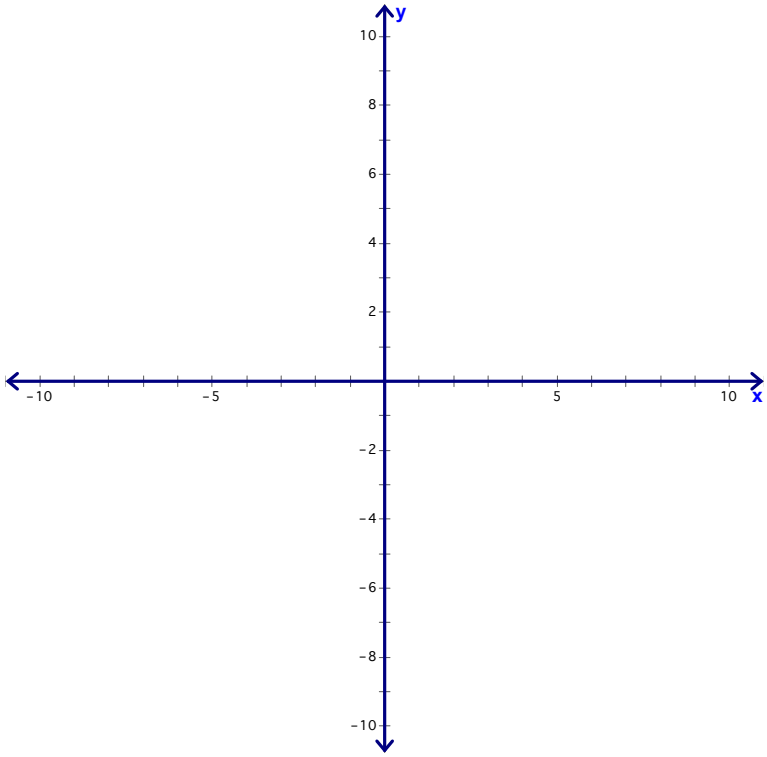
Hole? _____

VA: _____

HA or SA: _____

x-int: _____

y-int: _____



4) $f(x)=\dfrac{3x+1}{x-2}$

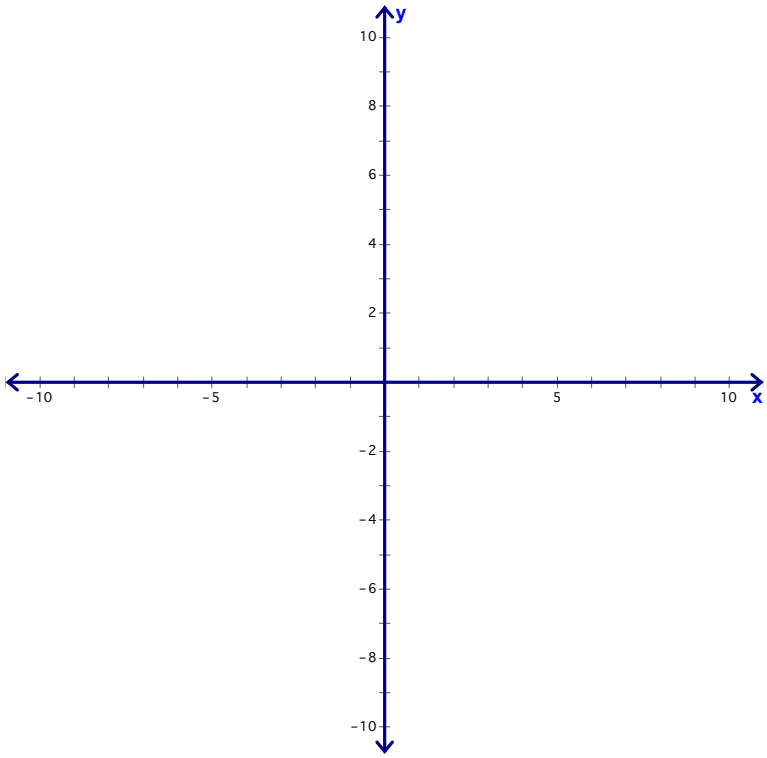
Hole? _____

VA: _____

HA or SA: _____

x-int: _____

y-int: _____



Sections 2.6 & 2.7 – I.C.E

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

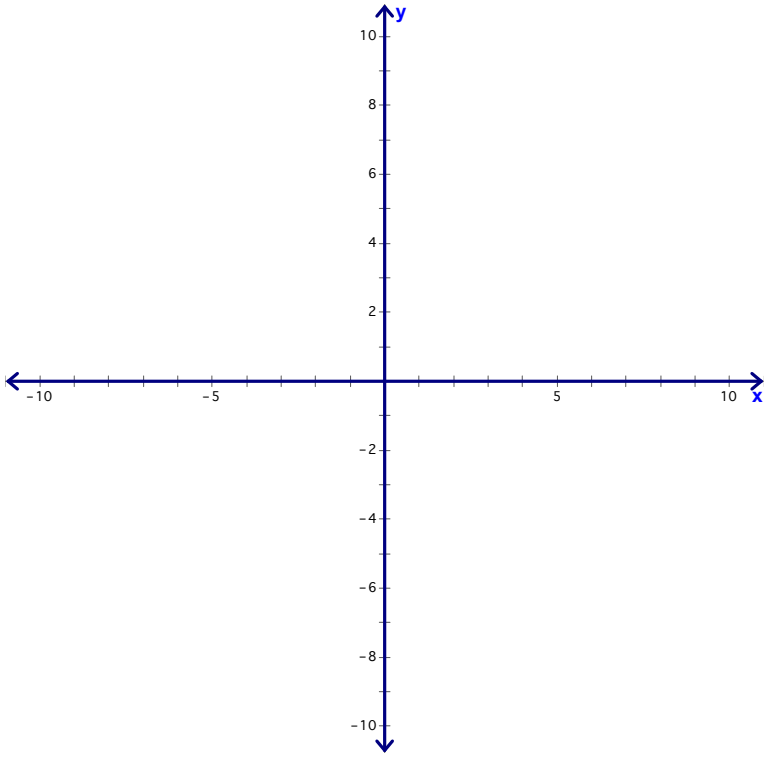
Hole? _____

VA: _____

HA or SA: _____

x-int: _____

y-int: _____



6) $h(x)=\frac{2x}{x^2-1}$

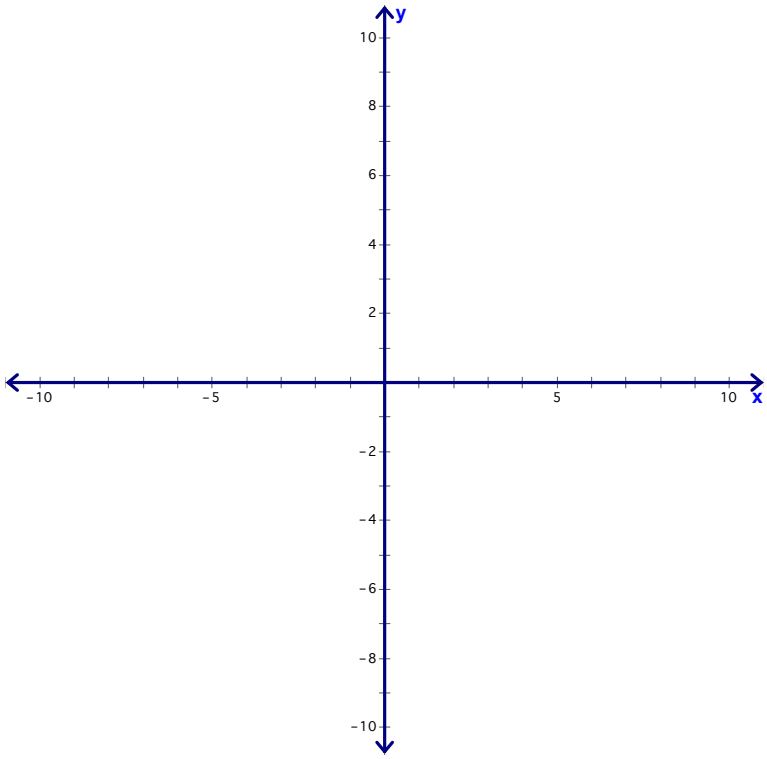
Hole? _____

VA: _____

HA or SA: _____

x-int: _____

y-int: _____



Sections 2.6 & 2.7 – I.C.E

7) $f(x)=\dfrac{x^2+6x+8}{x+3}$

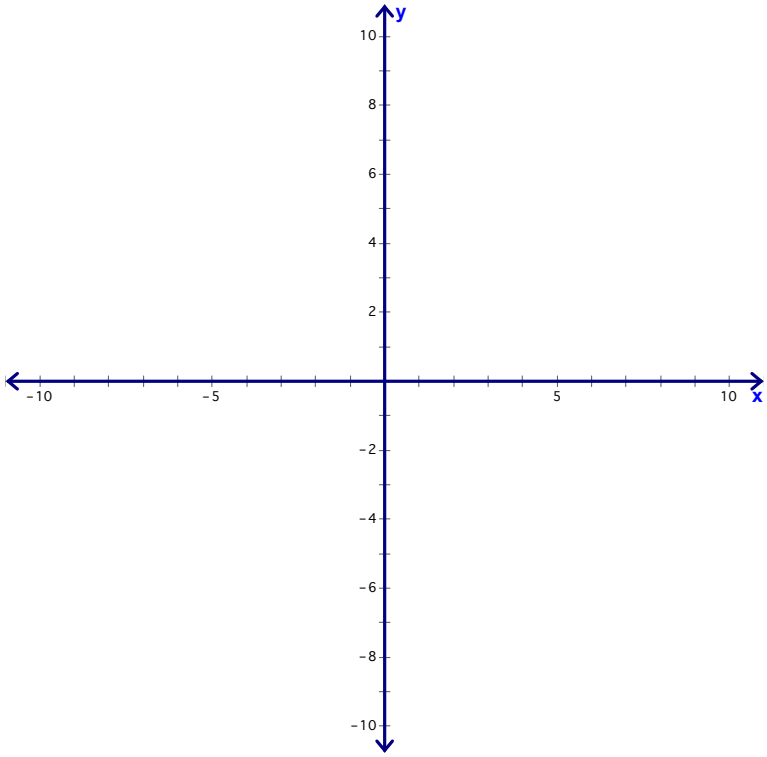
Hole? _____

VA: _____

HA or SA: _____

x-int: _____

y-int: _____



8) $k(x)=\dfrac{2}{x^2+3x}$

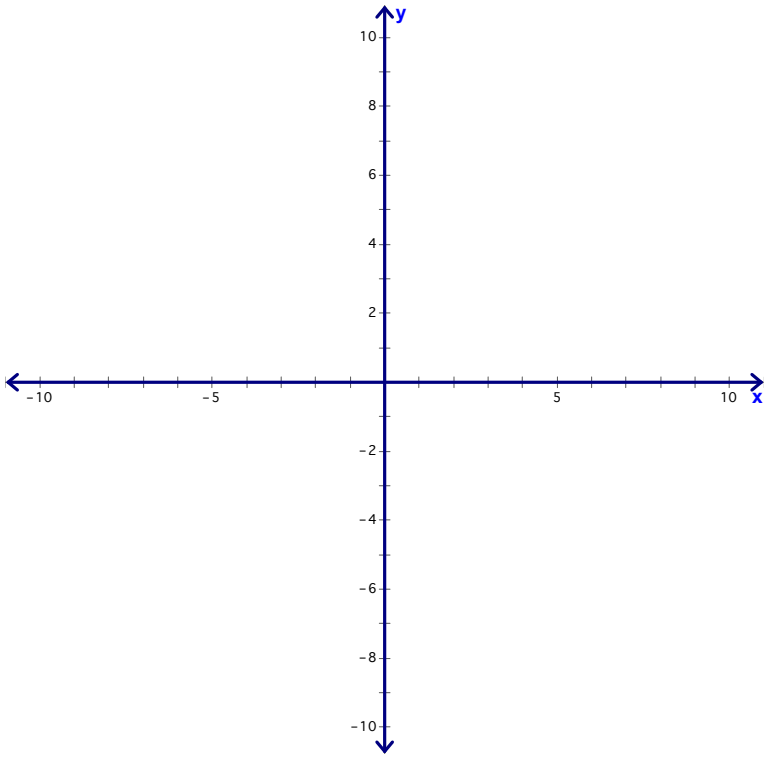
Hole? _____

VA: _____

HA or SA: _____

x-int: _____

y-int: _____



Sections 2.6 & 2.7 – I.C.E

9) $f(x)=\dfrac{x^2+2x-12}{x-5}$

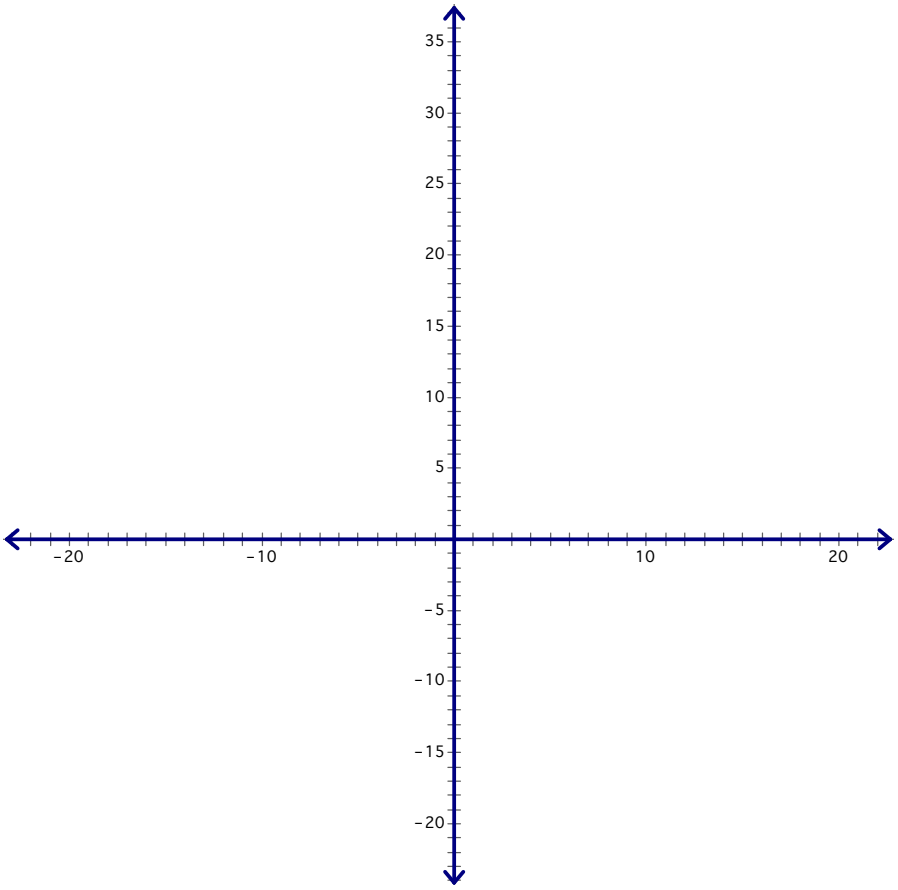
Hole? _____

VA: _____

HA or SA: _____

x-int: _____

y-int: _____



Sections 2.6 & 2.7 – I.C.E

10) $f(x)=\dfrac{4x^3-28x-24}{x^2-3x-10}$ (hint: try x + 1 as a factor for the numerator)

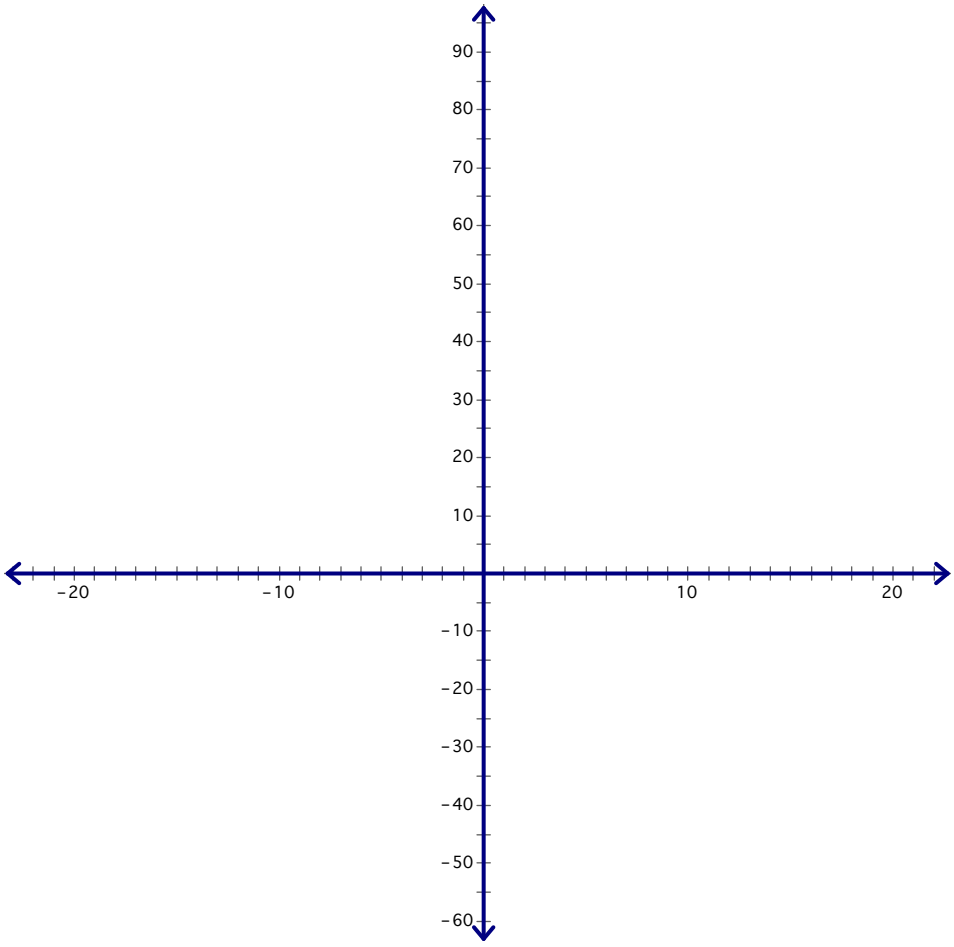
Hole? _____

VA: _____

HA or SA: _____

x-int: _____

y-int: _____



Sections 2.6 & 2.7 – I.C.E

11) Solve $x^2 + x < 6$ and answer using interval notation

12) Solve $\frac{-2(x-3)}{x+2} \geq 0$ and answer using interval notation

13) Solve $\frac{x^2+10x+24}{x^2-3x-4} \leq 0$ and answer using interval notation

14) Solve $\frac{4}{x+5} - \frac{1}{2x+3} > 0$ and answer using interval notation