

Sections 2.6 & 2.7 – I.C.E #2

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) $f(x) = \frac{2x-3}{x-4}$

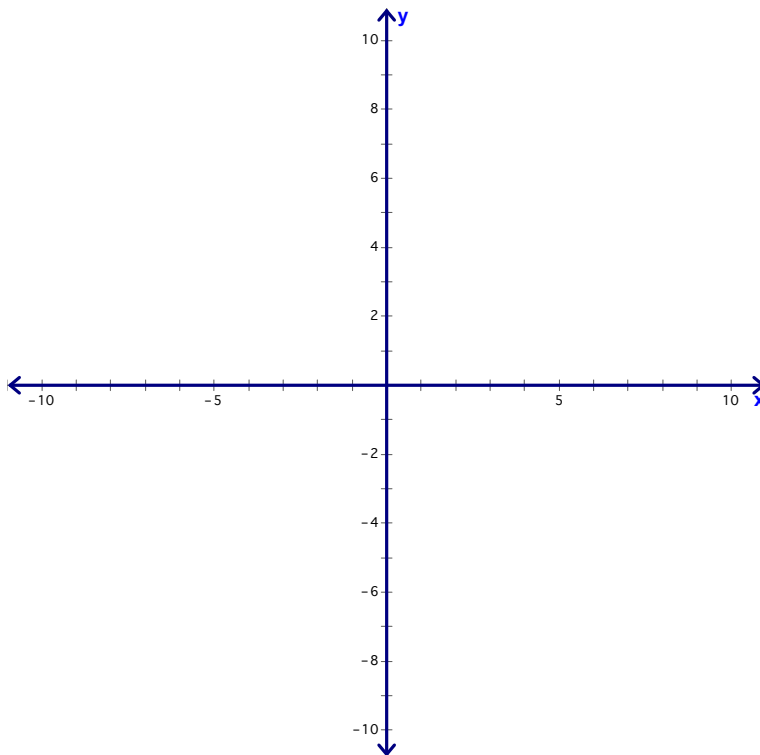
Hole? _____

VA: _____

HA or SA: _____

x-int: _____

y-int: _____



2) $f(x) = \frac{-x^3}{x^2-9}$

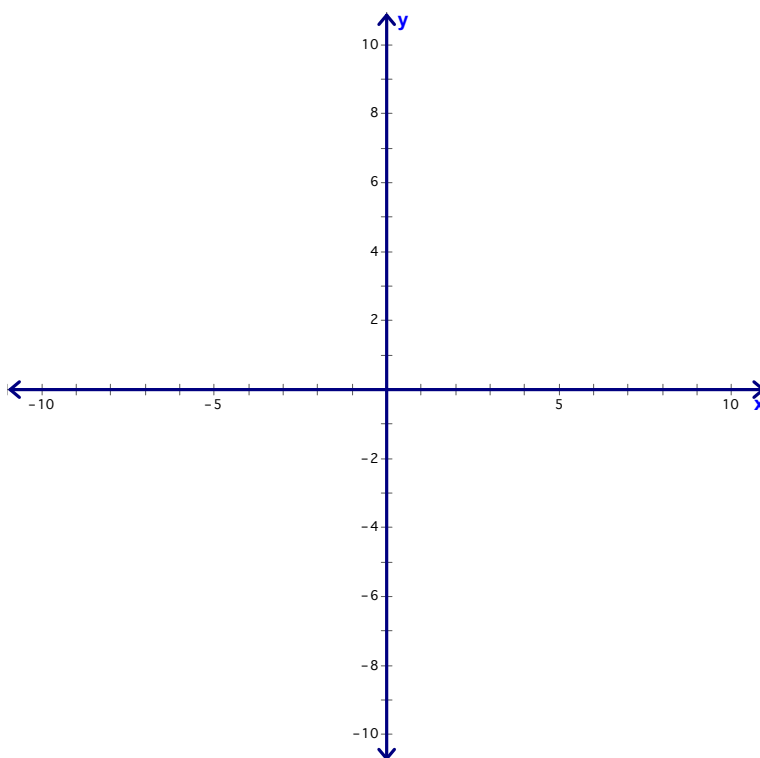
Hole? _____

VA: _____

HA or SA: _____

x-int: _____

y-int: _____



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$$3) f(x) = \frac{2x^2 + 6x + 4}{x^2 - x - 6}$$

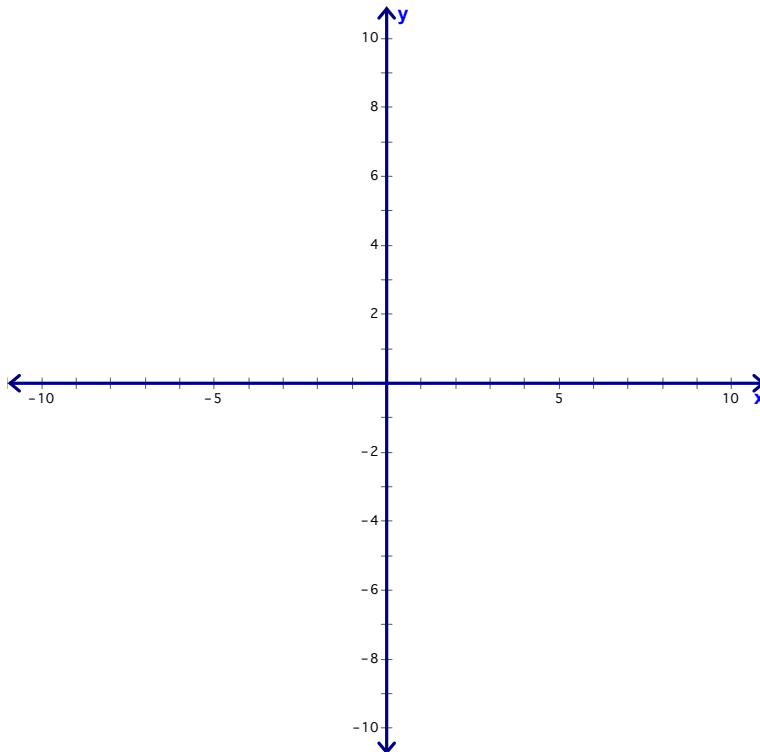
Hole? _____

VA: _____

HA or SA: _____

x-int: _____

y-int: _____



$$4) f(x) = \frac{x^2 - 2x - 8}{2x^2 - 10x + 8}$$

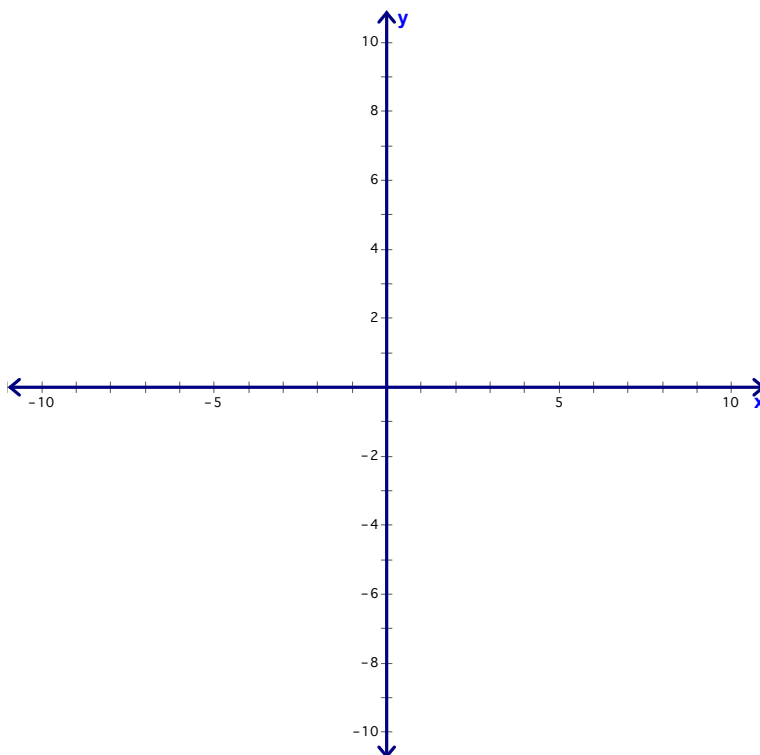
Hole? _____

VA: _____

HA or SA: _____

x-int: _____

y-int: _____



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5) $g(x) = \frac{5}{x^2 - 16}$

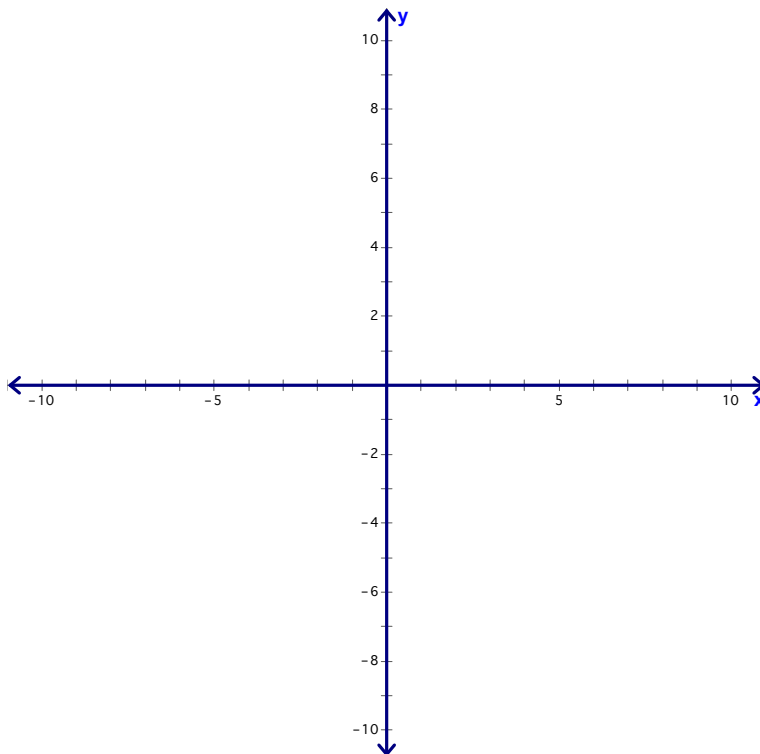
Hole? _____

VA: _____

HA or SA: _____

x-int: _____

y-int: _____



6) $h(x) = \frac{-4x}{x^2 - 2}$

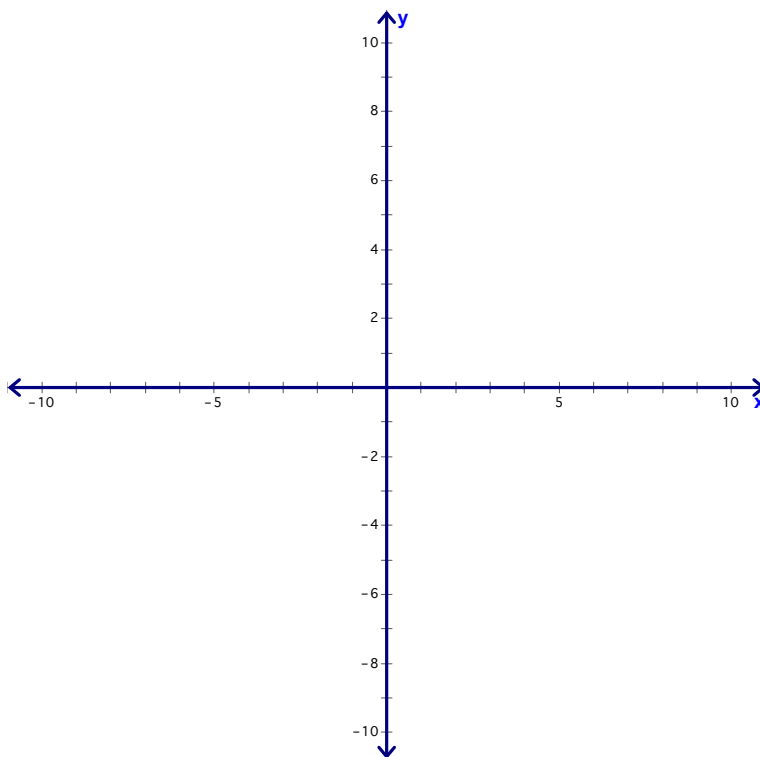
Hole? _____

VA: _____

HA or SA: _____

x-int: _____

y-int: _____



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7) $f(x) = \frac{3x^2}{x^2 + 5}$

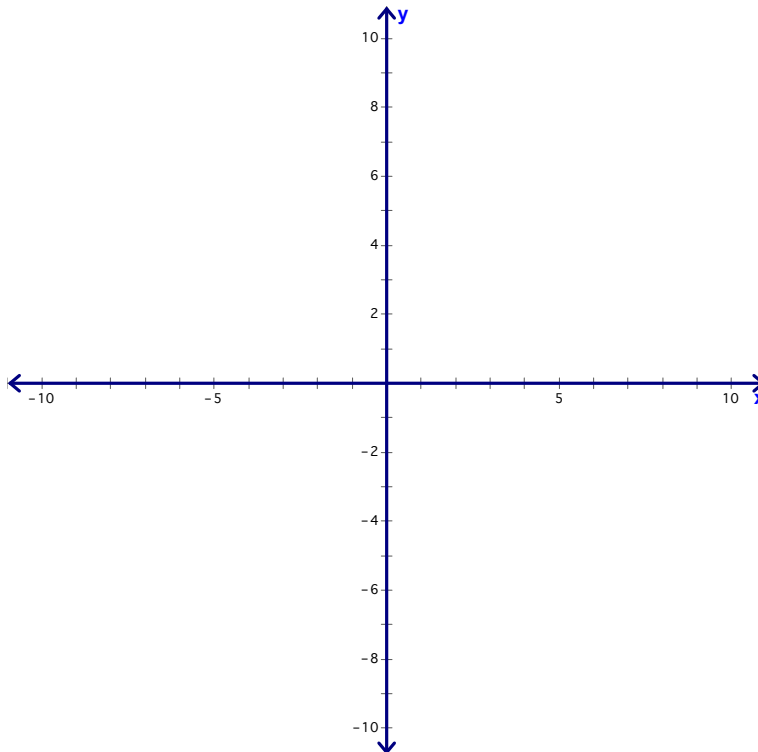
Hole? _____

VA: _____

HA or SA: _____

x-int: _____

y-int: _____



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

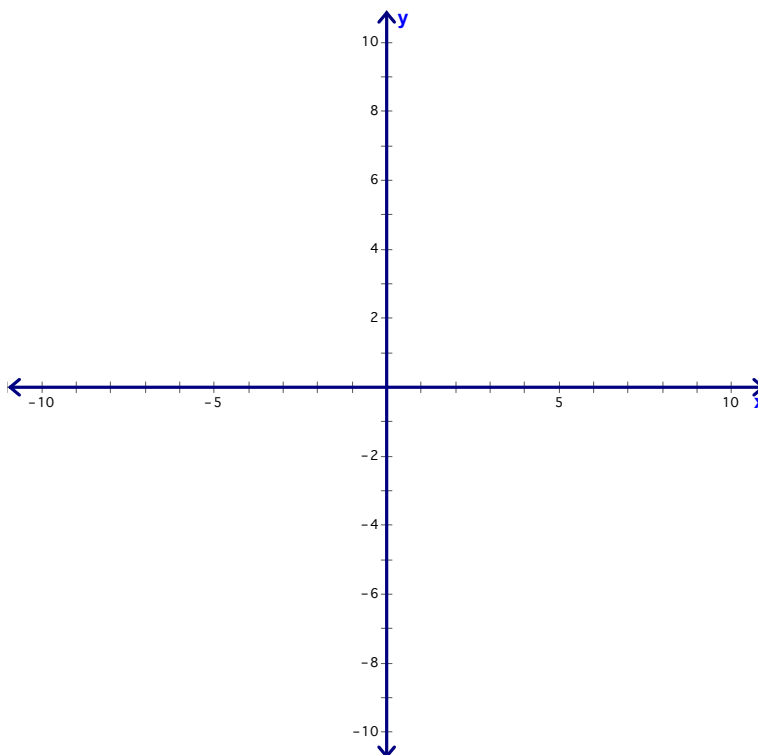
Hole? _____

VA: _____

HA or SA: _____

x-int: _____

y-int: _____



Sections 2.6 & 2.7 – I.C.E #2

9) $f(x) = \frac{x^2 - 3x - 12}{x + 2}$

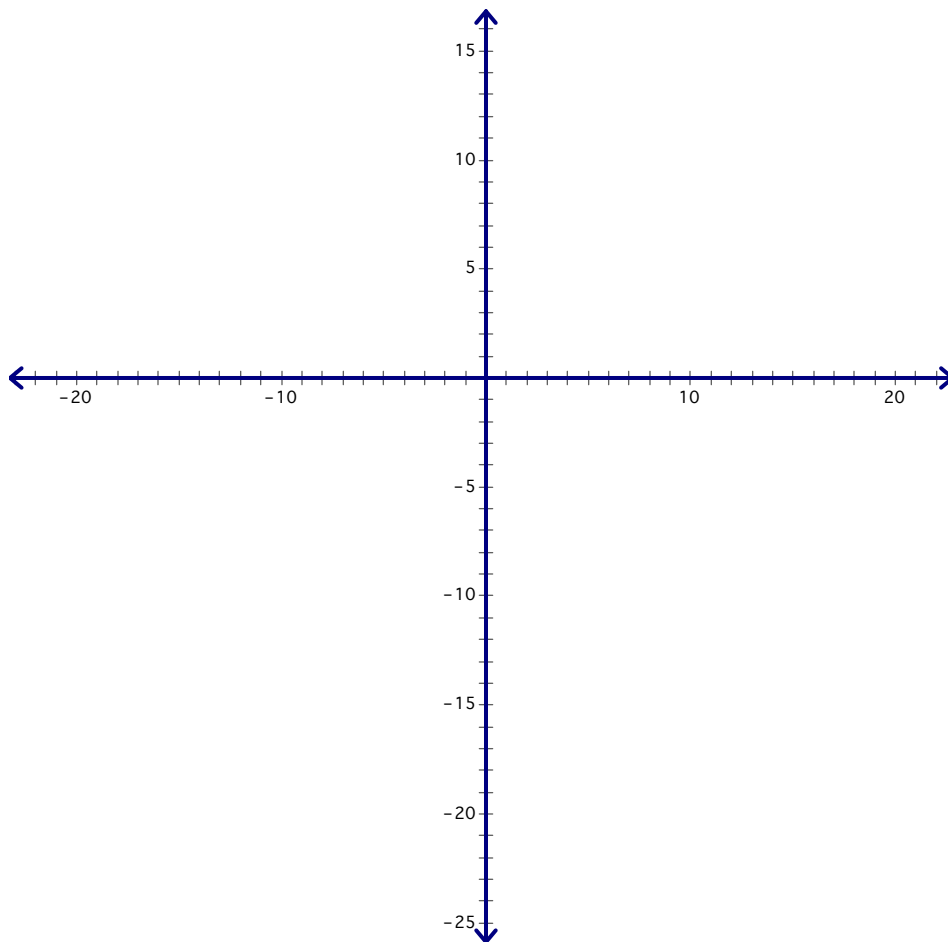
Hole? _____

VA: _____

HA or SA: _____

x-int: _____

y-int: _____



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10) $f(x) = \frac{3x^3 - 21x + 18}{x^2 - x - 12}$ (hint: try $x - 1$ as a factor for the numerator)

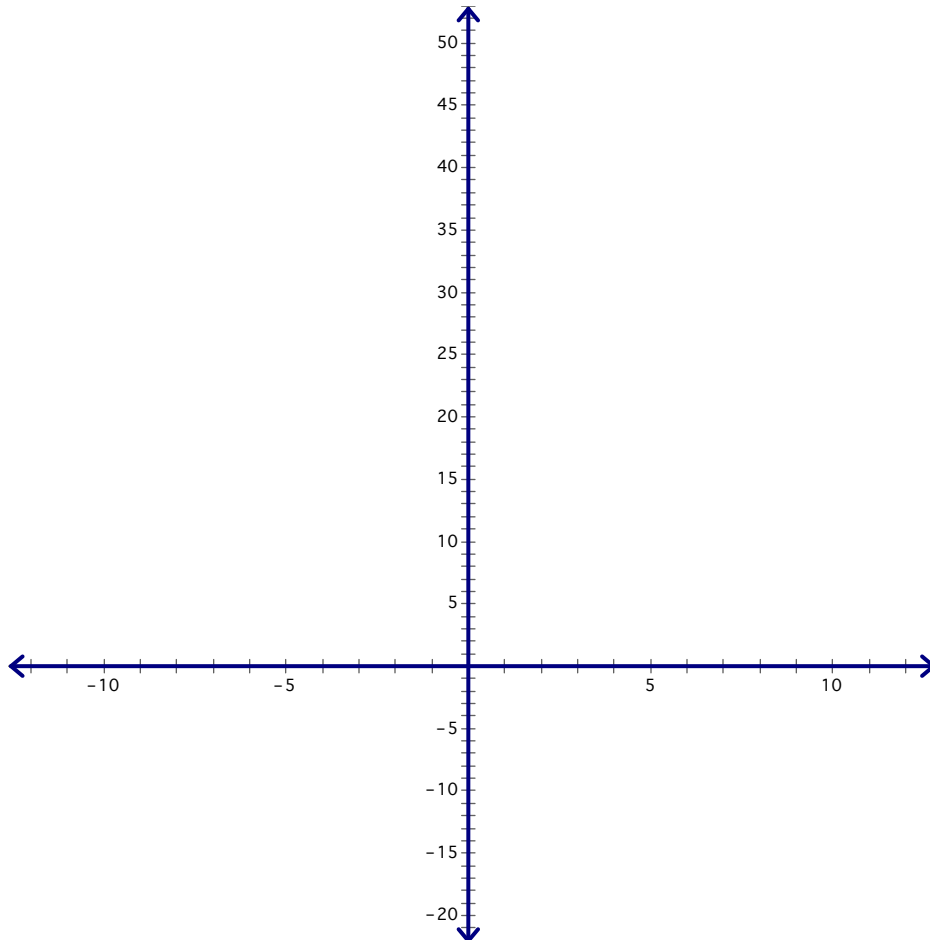
Hole? _____

VA: _____

HA or SA: _____

x-int: _____

y-int: _____



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11) Solve $x^2 - x > 6$ and answer using interval notation

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

13) Solve $\frac{x^2 + 9x + 18}{x^2 - 2x - 8} \geq 0$ and answer using interval notation

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