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RATIONAL FUNCTIONS AND THEIR GRAPHS Bell Work

Find the domain of each rational function. Identify all asymptotes and point of discontinuity each rational function.

1. $f(x) = \frac{3x+5}{x-2}$

   Domain : _____ Point of Discontinuity : _____

   Vertical Asymptote : _____ Horizontal Asymptote : _____

2. $f(x) = \frac{x+2}{2x^2}$

   Domain : _____ Point of Discontinuity : _____

   Vertical Asymptote : _____ Horizontal Asymptote : _____

3. $f(x) = \frac{x^2-16}{4-5x+x^2}$

   Domain : _____ Point of Discontinuity : _____

   Vertical Asymptote : _____ Horizontal Asymptote : _____

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

   Domain : _____ Point of Discontinuity : _____

   Vertical Asymptote : _____ Horizontal Asymptote : _____

5. $f(x) = \frac{x^2-2x+1}{x^2+x-2}$

   Domain : _____ Point of Discontinuity : _____

   Vertical Asymptote : _____ Horizontal Asymptote : _____

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RATIONAL FUNCTIONS AND THEIR GRAPHS Bell Work

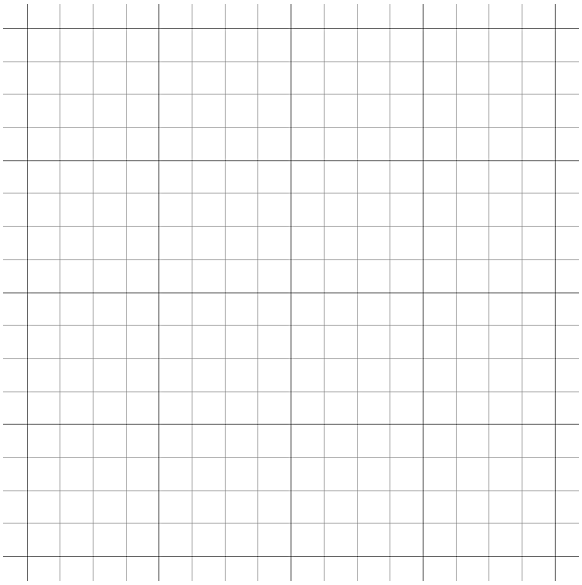
Graph the rational function and show all asymptotes and point of discontinuity.

6. $f(x) = \frac{x}{x-3}$

Vertical Asymptote : _____ Horizontal Asymptote : _____

Point of Discontinuity : _____

x	y

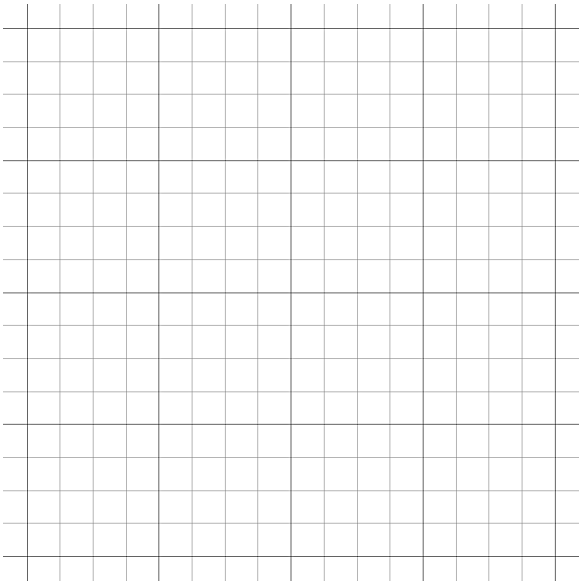


7. $f(x) = \frac{5x}{x+1}$

Vertical Asymptote : _____ Horizontal Asymptote : _____

Point of Discontinuity : _____

x	y



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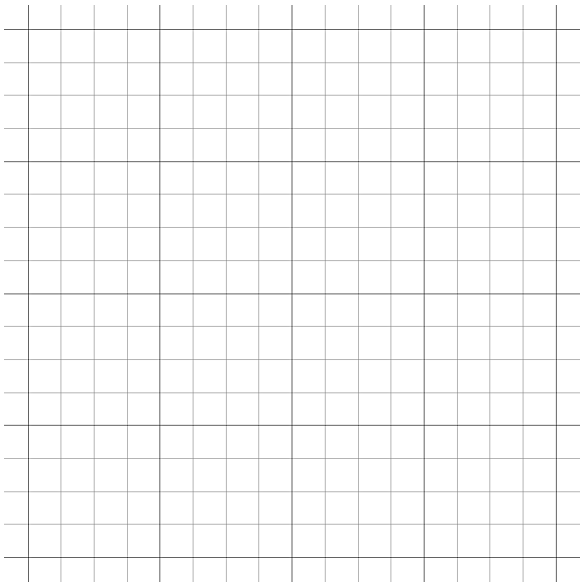
RATIONAL FUNCTIONS AND THEIR GRAPHS Bell Work

8. $f(x) = \frac{2x+1}{x-3}$

Vertical Asymptote : _____ Horizontal Asymptote : _____

Point of Discontinuity : _____

x	y

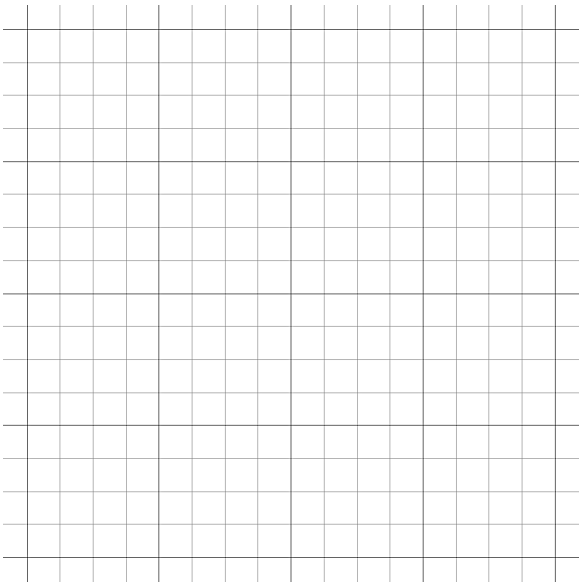


9. $f(x) = \frac{-3}{(x-2)^2}$

Vertical Asymptote : _____ Horizontal Asymptote : _____

Point of Discontinuity : _____

x	y



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RATIONAL FUNCTIONS AND THEIR GRAPHS Bell Work

10. $f(x) = \frac{1}{(x+3)^2}$

Vertical Asymptote : _____ Horizontal Asymptote : _____

Point of Discontinuity : _____

x	y