

Precalculus

2-08 Graphs of Rational Functions

Intercepts

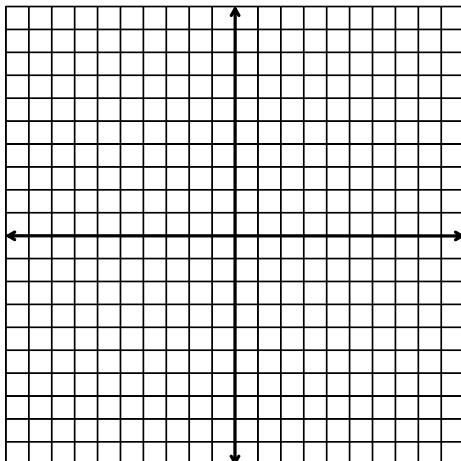
- x-int: let _____
 - Numerator = 0
- y-int: let _____

Find the intercepts of $f(x) = \frac{3x^2-1}{x}$

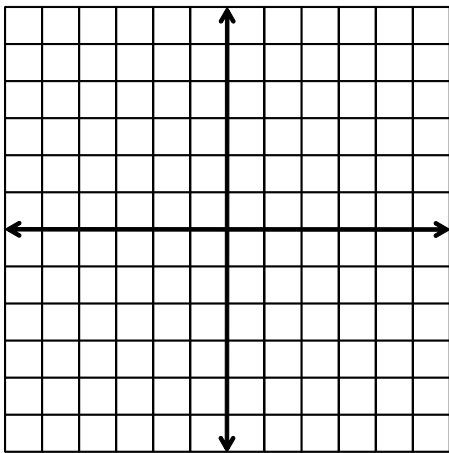
To graph rational functions

1. Find _____
2. Find _____
3. Graph _____ as dotted lines
4. Create _____ of values around asymptotes
5. _____ points
6. Draw curves starting near an _____ and ending near another asymptote
Don't cross _____
7. Put any required _____. Check the _____

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



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

**Find the function given a graph**

1. Use the x-intercepts and multiplicity to get factors of _____
 - a. If cross x-axis: multiplicity 1 or 3
 - b. If touch but not cross: multiplicity 2 or 4
2. Use vertical asymptotes to get factors of _____
 - a. If 1 end goes up and 1 down: multiplicity 1
 - b. If both ends go same direction: multiplicity 2
3. Use any other point to get _____ factor, a

Find the function