5.4 Properties of Rational Functions (Intercepts)

▼ Finding Intercepts Algebraically

To find an x-intercept: let $y = 0$ and solve for x. In function notation, let $f(x) = 0$ and solve for x. Be sure to check that the solution is in the domain of the rational function. You can avoid getting an extraneous x-intercept by canceling any common factors first.

To find an y-intercept: let $x = 0$ and solve for y. In function notation, find $f(0)$.

▼ Examples:

▼ Example 1: Find the x and y intercepts.

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

▼ Example 2: Find the x and y intercepts.

$$R(x) = \frac{x^2-9}{x^2+x-2}$$

▼ Example 3: Find the x and y intercepts.

$$R(x) = \frac{x^2+2x-15}{x^2-25}$$