La Scuola d'Italia / Huson / IB Math: Probability   First & last name:

16 January 2026   Grade:

8.6 Pop Quiz: Rational functions

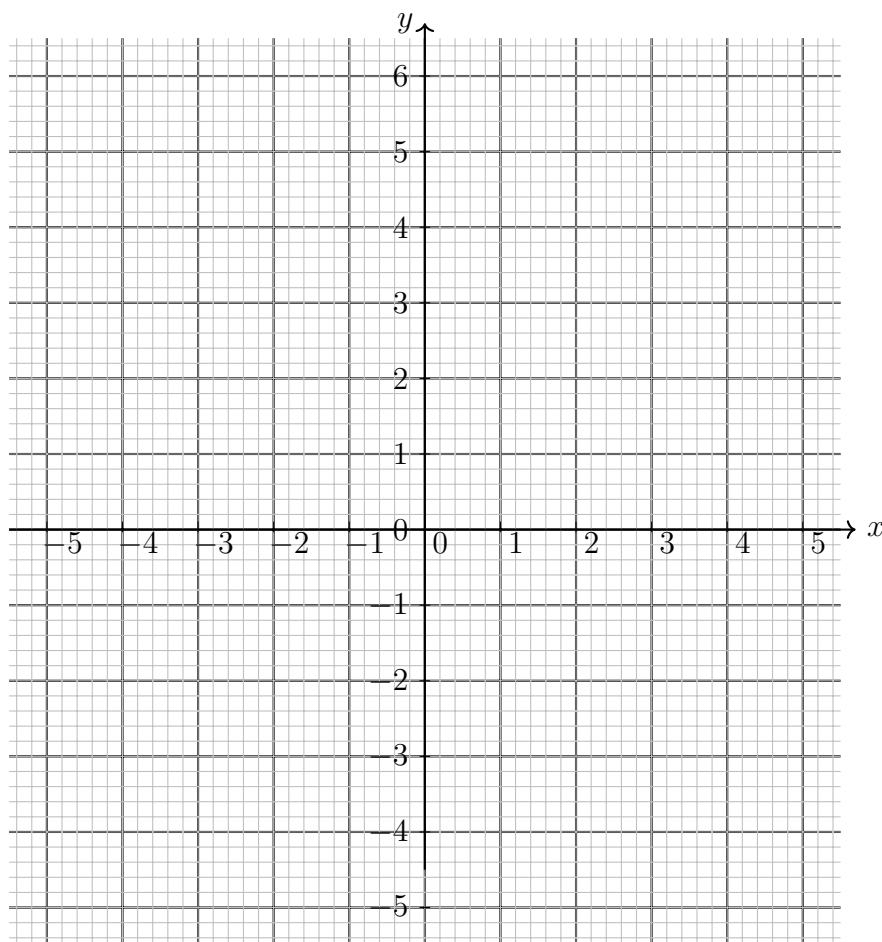1. Consider the function $f(x) = \dfrac{2x+3}{3x-6}$ with $x \neq 2$.

   (a) Write down the equation for the horizontal asymptote.

   (b) Write down the equation for the vertical asymptote.

   (c) Find the x-intercept of the function.

   (d) Find the y-intercept of the function.

   (e) Graph the function f, labeling the features identified in the prior questions.

2. Let $f(x) = x^2$ and $g(x) = 2x - 3$

   (a) Find $(f \circ g)(x)$

   (b) Find $g^{-1}(x)$

   (c) Graph and label $f(x)$ on the axes below. Graph and label $f^{-1}(x)$ for $x \geq 0$.