

Hyperbola

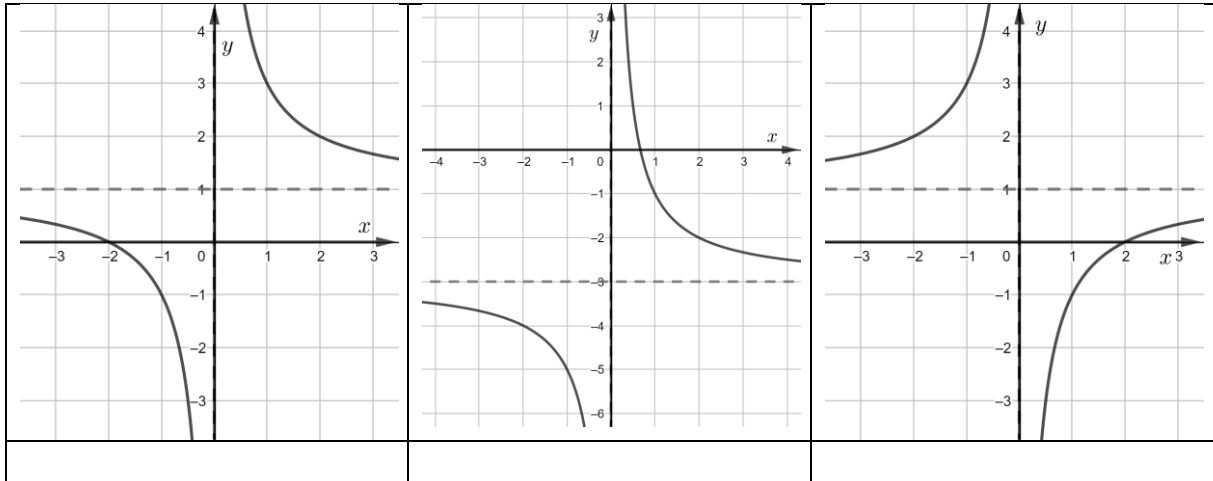
Task 1. Below are graphs of the functions:

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

$$g(x) = \frac{2}{x} + 1$$

$$h(x) = \frac{-2}{x} + 1$$

Match the functions to their graphs.



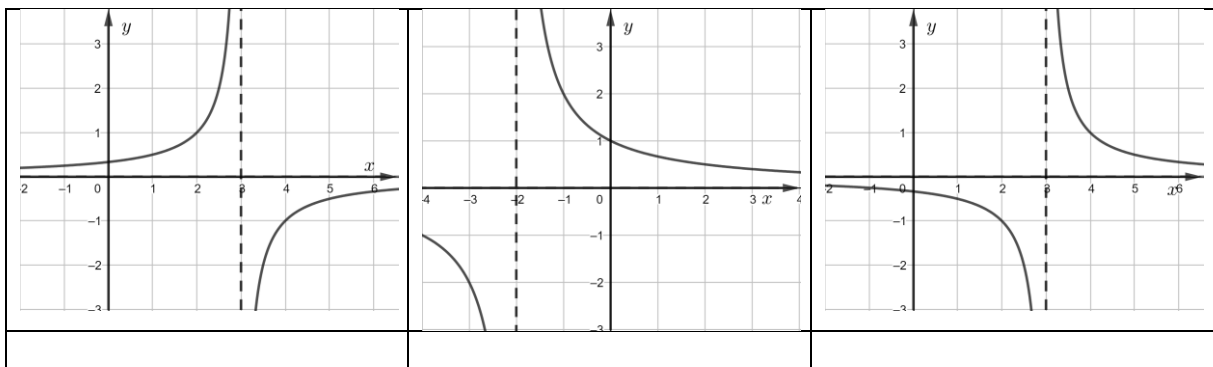
Task 2. Below are graphs of the functions:

$$f(x) = \frac{1}{x-3}$$

$$g(x) = \frac{2}{x+2}$$

$$h(x) = \frac{-1}{x-3}$$

Match the function formula to each graph.



Task 3. Identify the vertical asymptote, horizontal asymptote, domain, and range of each function.

Function	Domain	Range	Vertical asymptote	Horizontal asymptote
$f(x) = \frac{2}{x} - 3$				
$g(x) = \frac{1}{x-3}$				

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Task 4.

Determine the equation of the hyperbola based on the information given in the figure.

