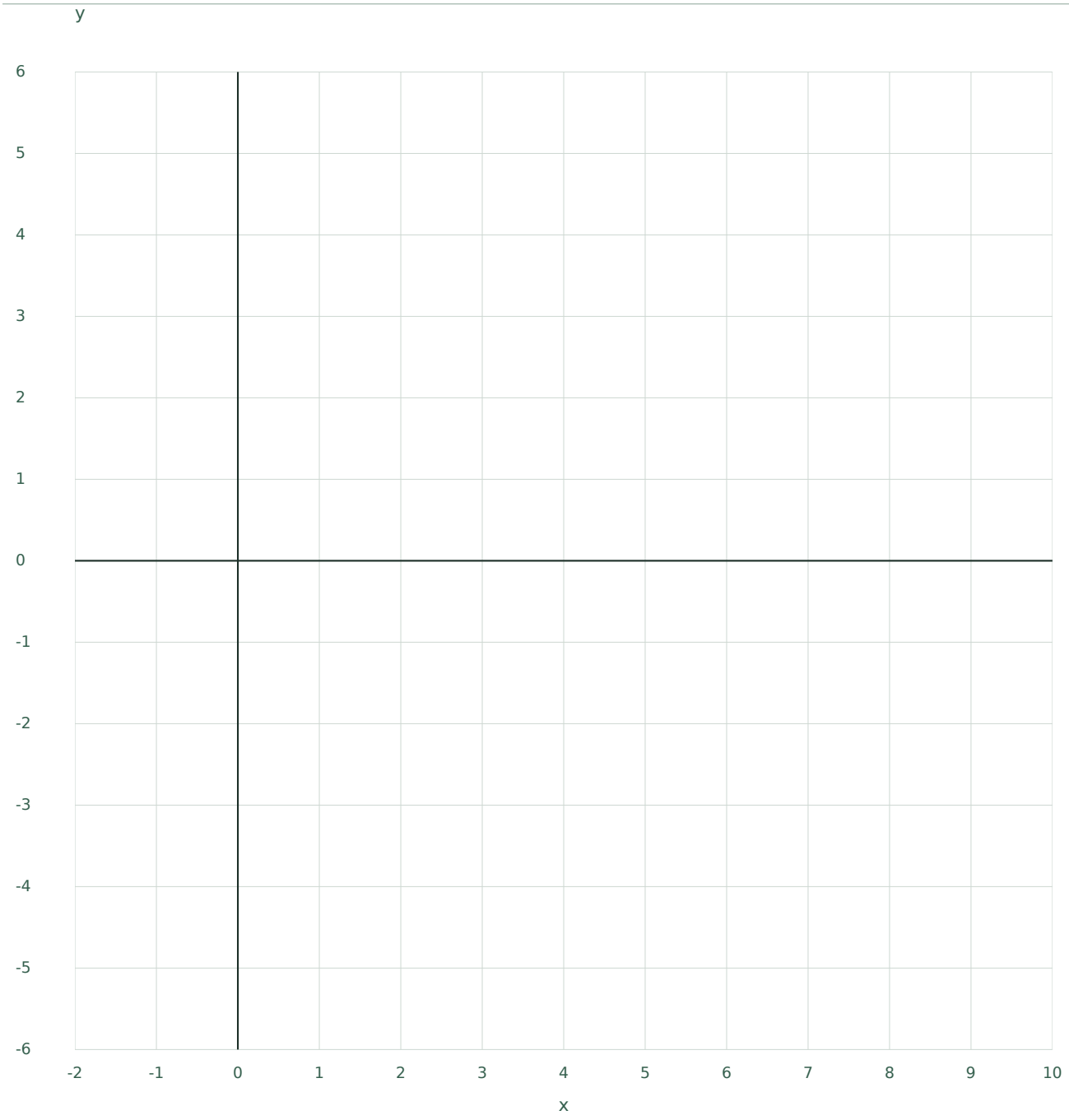
Graph Rational Functions: Vertical and Horizontal Asymptotes

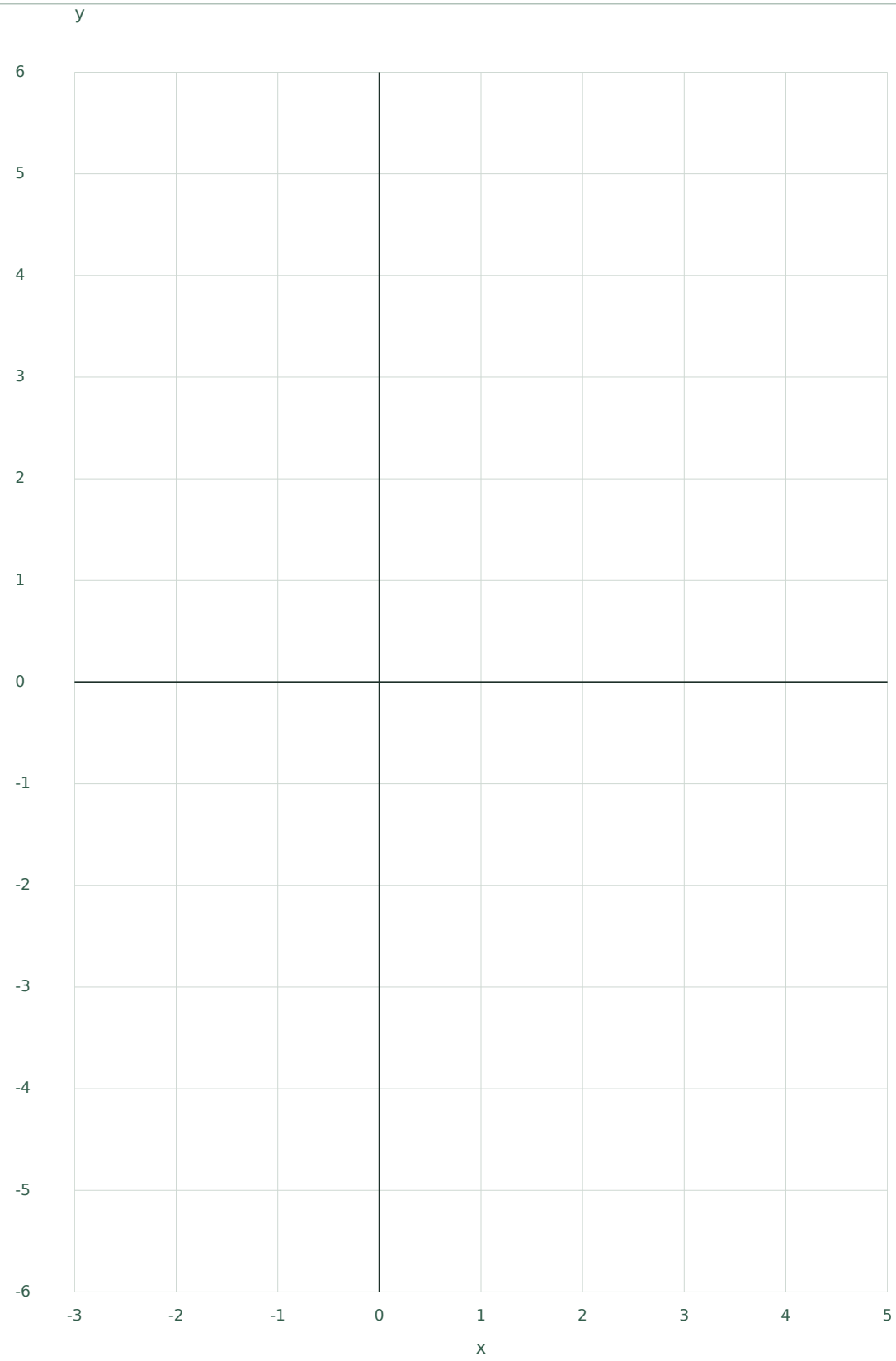
Worksheet: Worked Example y = 1/(x-4)



Graph y = 1/(x-4). Identify the vertical asymptote, horizontal asymptote, intercepts, and sketch the branches.

Graph Rational Functions: Vertical and Horizontal Asymptotes

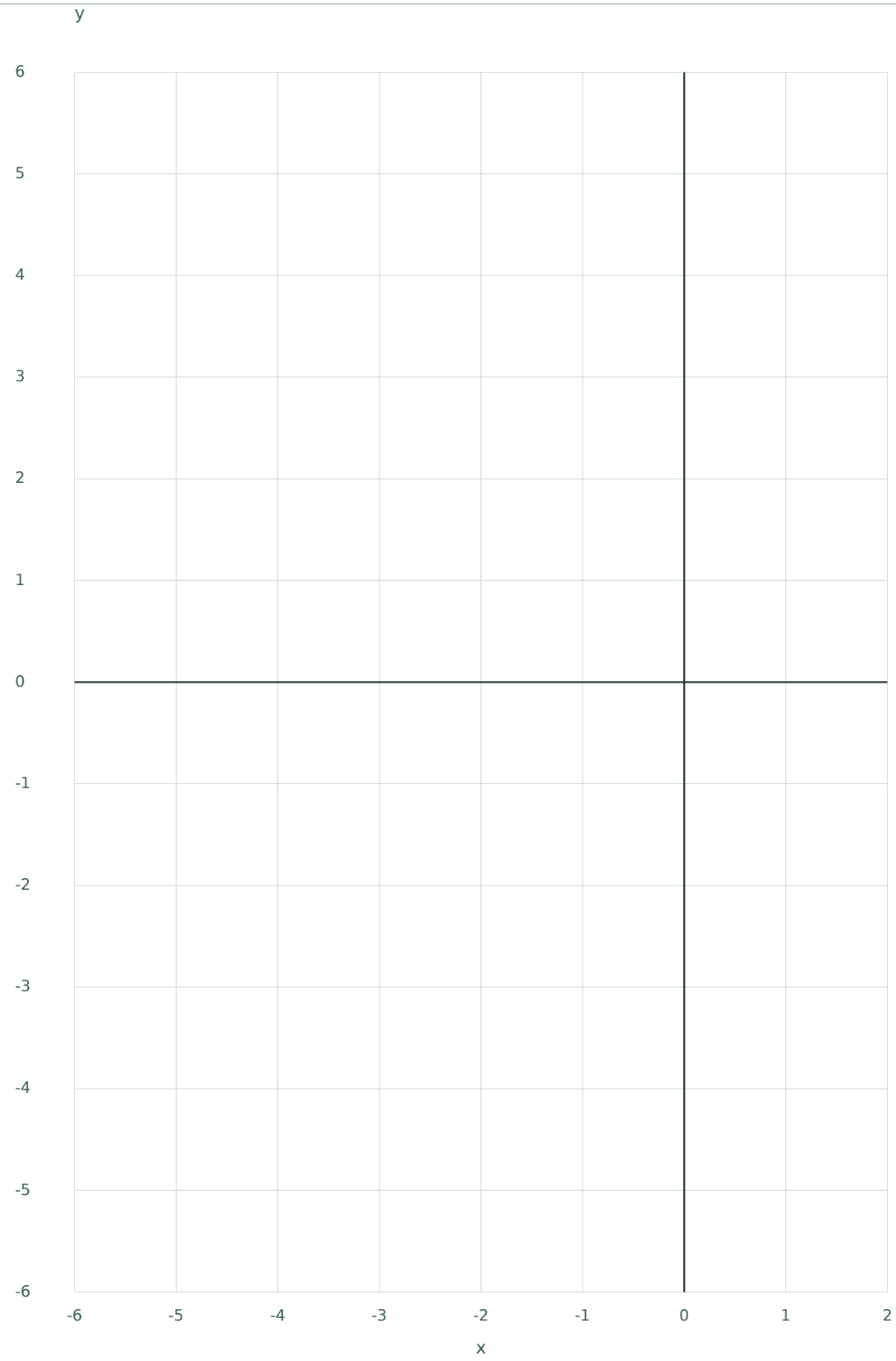
Worksheet Exercise 1: y = 2/(x-1)



Graph y = 2/(x-1). Find the vertical asymptote, horizontal asymptote, intercepts, and describe the branches.

Graph Rational Functions: Vertical and Horizontal Asymptotes

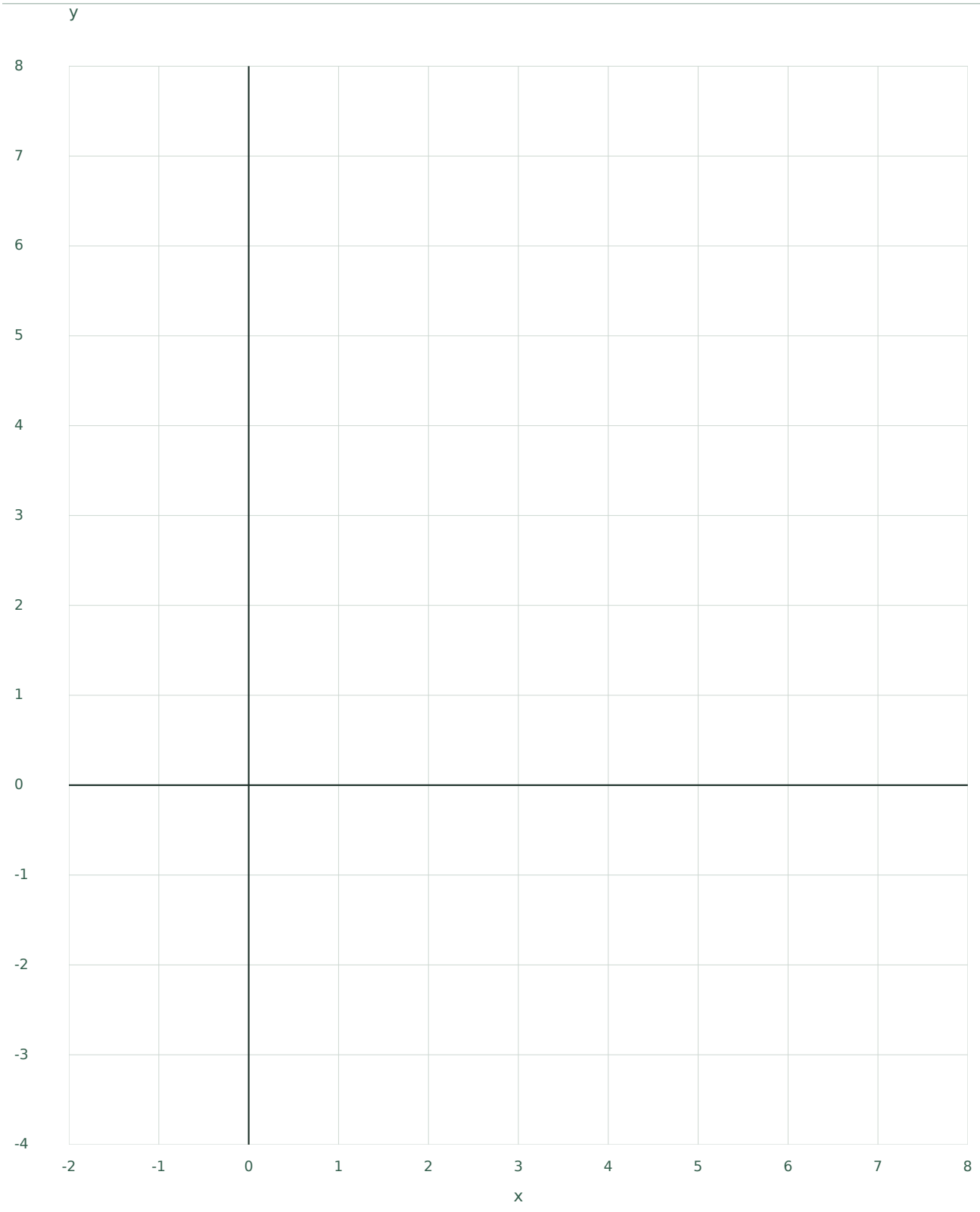
Worksheet Exercise 2: y = -1/(x+2)



Graph y = -1/(x+2). Find the vertical asymptote, horizontal asymptote, intercepts, and describe the branches.

Graph Rational Functions: Vertical and Horizontal Asymptotes

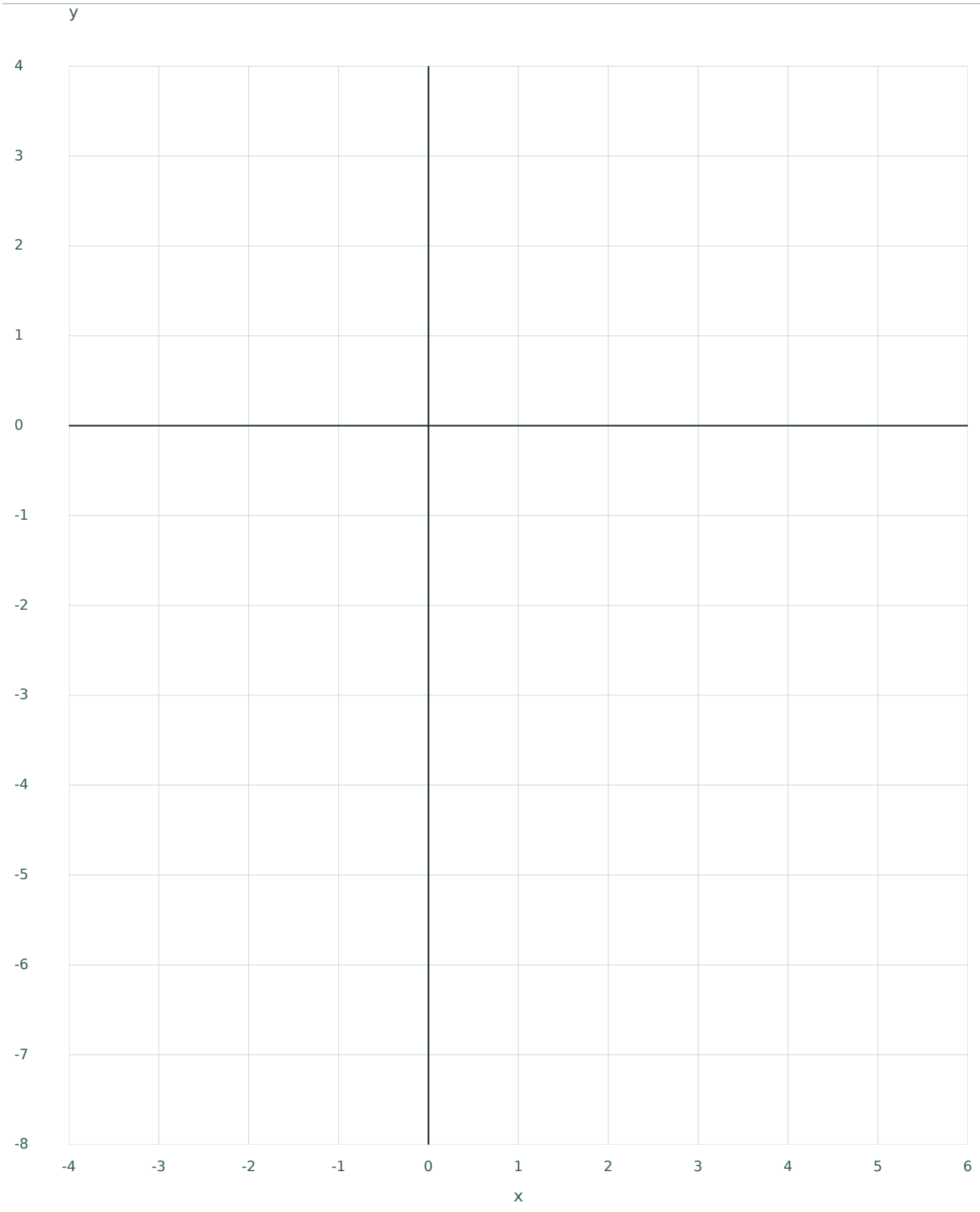
Worksheet Exercise 3: y = 1/(x-3) + 2



Graph y = 1/(x-3) + 2. Find the vertical asymptote, horizontal asymptote, intercepts, and describe the branches.

Graph Rational Functions: Vertical and Horizontal Asymptotes

Worksheet Exercise 4: y = -2/(x-1) - 1



Graph y = -2/(x-1) - 1. Find the vertical asymptote, horizontal asymptote, intercepts, and describe the branches.

Graph Rational Functions: Vertical and Horizontal Asymptotes

Worksheet Response Fields / 1 of 2

Space for students to record asymptotes, intercepts, test points, and branch descriptions for each exercise.

Exercise 1: Vertical asymptote	
Exercise 1: Horizontal asymptote	
Exercise 1: Intercepts	
Exercise 1: Test points	
Exercise 1: Branch description	
Exercise 2: Vertical asymptote	
Exercise 2: Horizontal asymptote	

Graph Rational Functions: Vertical and Horizontal Asymptotes

Worksheet Response Fields / 2 of 2

Space for students to record asymptotes, intercepts, test points, and branch descriptions for each exercise.

Exercise 2: Intercepts	

Exercise 2: Test points	

Exercise 2: Branch description	

Graph Rational Functions: Vertical and Horizontal Asymptotes

Original tasks 1, 2, 3 / blank responses

Task 1

Graph y = 2/(x-1). Find the vertical asymptote, horizontal asymptote, intercepts, and describe the branches.

Task 2

Graph y = -1/(x+2). Find the vertical asymptote, horizontal asymptote, intercepts, and describe the branches.

Task 3

Graph y = 1/(x-3) + 2. Find the vertical asymptote, horizontal asymptote, intercepts, and describe the branches.

Graph Rational Functions: Vertical and Horizontal Asymptotes

Original tasks 4 / blank responses

Task 4

Graph y = -2/(x-1) - 1. Find the vertical asymptote, horizontal asymptote, intercepts, and describe the branches.