Activity 5.2: Graphs of Rational Functions

A

Name: _____ Partner's name: _____ Date: _____

Directions: Answer each question about the rational function. Problem 6 uses a graph. Graphs are drawn accurately. *Work alone, then compare after each problem. If answers differ, find the mistake together.*

1 Find the vertical asymptote of $f(x) = \dfrac{2}{x-3}$.

Answer: _____ Match? ☐ Yes ☐ No

2 Find the horizontal asymptote of $f(x) = \dfrac{3x+1}{x-2}$.

Answer: _____ Match? ☐ Yes ☐ No

3 Find the coordinates of the hole in the graph of $f(x) = \dfrac{x^2-4}{x-2}$.

Answer: _____ Match? ☐ Yes ☐ No

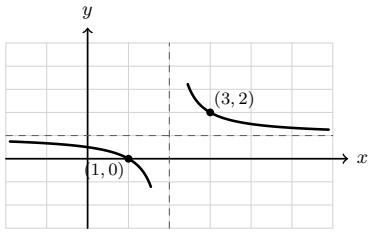
4 Find the y-intercept of $f(x) = \dfrac{x-4}{x+2}$.

Answer: _____ Match? ☐ Yes ☐ No

5 State the domain of $f(x) = \dfrac{x}{x^2-9}$.

Answer: _____ Match? ☐ Yes ☐ No

6 Write the function whose graph is shown.



Answer: _____ Match? ☐ Yes ☐ No

7 Find the slant asymptote of $f(x) = \dfrac{x^2+1}{x}$.

Answer: _____ Match? ☐ Yes ☐ No

8 If $f(x) = \dfrac{2x+3}{x-1}$, find $f(3)$.

Answer: _____ Match? ☐ Yes ☐ No

Activity 5.2: Graphs of Rational Functions

B

Name: _____ Partner's name: _____ Date: _____

Directions: Answer each question about the rational function. Problem 6 uses a graph. Graphs are drawn accurately.
Work alone, then compare after each problem. If answers differ, find the mistake together.

1 Find the vertical asymptote of $g(x) = \dfrac{5}{2x-6}$.

Answer: _____ Match? ☐ Yes ☐ No

2 Find the horizontal asymptote of $g(x) = \dfrac{6x-5}{2x+1}$.

Answer: _____ Match? ☐ Yes ☐ No

3 Find the coordinates of the hole in the graph of $g(x) = \dfrac{2x^2-8}{2x-4}$.

Answer: _____ Match? ☐ Yes ☐ No

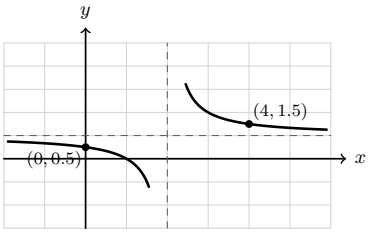
4 Find the y-intercept of $g(x) = \dfrac{3x-12}{3x+6}$.

Answer: _____ Match? ☐ Yes ☐ No

5 State the domain of $g(x) = \dfrac{x+1}{(x-3)(x+3)}$.

Answer: _____ Match? ☐ Yes ☐ No

6 Write the function whose graph is shown.



Answer: _____ Match? ☐ Yes ☐ No

7 Find the slant asymptote of $g(x) = \dfrac{x^2+3x+1}{x+3}$.

Answer: _____ Match? ☐ Yes ☐ No

8 If $g(x) = \dfrac{x^2}{x-1}$, find $g(3)$.

Answer: _____ Match? ☐ Yes ☐ No