Name

Rational Functions and Asymptotes - Calculate Horizontal Asymptote (Factored)

1

What is the horizontal asymptote of this rational function? $f(x) = \frac{3(x+2)}{x(x-1)}$

A Horizontal asymptote at $y = 0$

B Horizontal asymptote at $y = 4$

C Horizontal asymptote at $y = -6$

D Horizontal asymptote at $y = 6$

2

What is the horizontal asymptote of this rational function?

$$f(x) = \frac{3(x+2)(x+1)}{(x+4)(x-3)(x-4)}$$

A Horizontal asymptote at $y = 5$

B Horizontal asymptote at $y = 0$

C Horizontal asymptote at $y = \frac{-1}{2}$

D Horizontal asymptote at $y = \frac{1}{6}$

3

What is the horizontal asymptote of this rational function?

$$f(x) = \frac{(x+3)x}{(x+2)(x+1)(x-1)}$$

A Horizontal asymptote at $y = 6$

B Horizontal asymptote at $y = -1$

C Horizontal asymptote at $y = 4$

D Horizontal asymptote at $y = 0$

4

What is the horizontal asymptote of this rational function? $f(x) = \frac{4(x+4)(x-2)}{2x(x-4)}$

A Horizontal asymptote at $y = \frac{-4}{3}$

B Horizontal asymptote at $y = 0$

C Horizontal asymptote at $y = 2$

D Horizontal asymptote at $y = -2$

5

What is the horizontal asymptote of this rational function? $f(x) = \frac{3(x+3)}{(x+2)(x-2)}$

A Horizontal asymptote at $y = 0$

B Horizontal asymptote at $y = 4$

C Horizontal asymptote at $y = \frac{-3}{2}$

D Horizontal asymptote at $y = \frac{5}{3}$

6

What is the horizontal asymptote of this rational function? $f(x) = \frac{2(x-2)}{(x+4)(x-1)}$

A Horizontal asymptote at $y = 6$

B Horizontal asymptote at $y = -2$

C Horizontal asymptote at $y = 0$

D Horizontal asymptote at $y = 4$

7

What is the horizontal asymptote of this rational function? $f(x) = \frac{-2(x+3)}{4x}$

A Horizontal asymptote at $y = \frac{-1}{2}$

B Horizontal asymptote at $y = 3$

C Horizontal asymptote at $y = 0$

D Horizontal asymptote at $y = \frac{1}{3}$

8

What is the horizontal asymptote of this rational function? $f(x) = \frac{3x}{(x+3)(x+2)}$

A Horizontal asymptote at $y = 6$

B Horizontal asymptote at $y = 1$

C Horizontal asymptote at $y = \frac{-5}{3}$

D Horizontal asymptote at $y = 0$