



## Rational Functions and Asymptotes - Function to Vertical Asymptote Existence

1

Does this rational function have a vertical asymptote?

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

A	B
Yes	No

2

Does this rational function have a vertical asymptote?

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

A	B
No	Yes

3

Does this rational function have a vertical asymptote?

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

A	B
Yes	No

4

Does this rational function have a vertical asymptote?

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

A	B
Yes	No

5

Does this rational function have a vertical asymptote?

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

A	B
Yes	No

6

Does this rational function have a vertical asymptote?

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

A	B
Yes	No

7

Does this rational function have a vertical asymptote?

$$f(x) = \frac{5(x - 4)}{4(x + 1)}$$

A	B
Yes	No

8

Does this rational function have a vertical asymptote?

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

A	B
No	Yes