Find the vertical asymptotes of $f(x) = \frac{x + 9}{x^2 - x - 42}$.

The graph of $f(x) = \frac{x^2 - x - 72}{x + 8}$ has a hole at $x = -8$. Find the y-coordinate of the hole.

Find the slant asymptote of $f(x) = \frac{x^2 + 8}{x + 5}$.

Find the horizontal asymptote of $f(x) = \frac{7x^2 - 2x - 4}{3x^2 - 3}$.

Find the slant asymptote of $f(x) = \frac{x^2 + 5x - 2}{x - 2}$.

The graph of $f(x) = \frac{x^2 - 16}{x + 4}$ has a hole at $x = -4$. Find the y-coordinate of the hole.

Find the slant asymptote of $f(x) = \frac{x^2 + 3x - 4}{x + 1}$.

Find the slant asymptote of $f(x) = \frac{x^2 + x - 6}{x - 1}$.

Rational Functions: Asymptotes & Holes · 2

ANSWER

-17

Rational Functions: Asymptotes & Holes · 1

ANSWER

$x = -6$ or $x = 7$

Rational Functions: Asymptotes & Holes · 4

ANSWER

$$y = \frac{7}{3}$$

Rational Functions: Asymptotes & Holes · 3

ANSWER

$y = x - 5$

Rational Functions: Asymptotes & Holes · 6

ANSWER

-8

Rational Functions: Asymptotes & Holes · 5

ANSWER

$y = x + 7$

Rational Functions: Asymptotes & Holes · 8

ANSWER

$y = x + 2$

Rational Functions: Asymptotes & Holes · 7

ANSWER

$y = x + 2$

Find the vertical asymptotes of $f(x) = \frac{x - 2}{x^2 + 2x - 24}$.

The graph of $f(x) = \frac{x^2 - 10x + 9}{x - 9}$ has a hole at $x = 9$. Find the y-coordinate of the hole.

Find the slant asymptote of $f(x) = \frac{x^2 + 5x - 9}{x + 2}$.

Find the horizontal asymptote of $f(x) = \frac{-x + 2}{3x + 4}$.

Find the slant asymptote of $f(x) = \frac{x^2 + 3x + 6}{x - 4}$.

The graph of $f(x) = \frac{x^2 + 8x + 12}{x + 6}$ has a hole at $x = -6$. Find the y-coordinate of the hole.

Find the slant asymptote of $f(x) = \frac{x^2 - 2x - 2}{x + 4}$.

Find the horizontal asymptote of $f(x) = \frac{5x^2 + 6x + 4}{3x^2 + 2}$.

Rational Functions: Asymptotes & Holes · 10

ANSWER

8

Rational Functions: Asymptotes & Holes · 9

ANSWER

$x = -6 \text{ or } x = 4$

Rational Functions: Asymptotes & Holes · 12

ANSWER

$$y = -\frac{1}{3}$$

Rational Functions: Asymptotes & Holes · 11

ANSWER

$y = x + 3$

Rational Functions: Asymptotes & Holes · 14

ANSWER

-4

Rational Functions: Asymptotes & Holes · 13

ANSWER

$y = x + 7$

Rational Functions: Asymptotes & Holes · 16

ANSWER

$$y = -\frac{5}{3}$$

Rational Functions: Asymptotes & Holes · 15

ANSWER

$y = x - 6$

Find the vertical asymptotes of $f(x) = \dfrac{x - 6}{x^2 + x - 72}$.

The graph of $f(x) = \dfrac{x^2 - x - 20}{x + 4}$ has a hole at $x = -4$. Find the y-coordinate of the hole.

Find the slant asymptote of $f(x) = \dfrac{x^2 - 5x - 1}{x + 5}$.

Find the horizontal asymptote of $f(x) = \dfrac{4x^2 - 8x + 1}{4x^2 + 9}$.

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

The graph of $f(x) = \dfrac{x^2 - 8x + 12}{x - 6}$ has a hole at $x = 6$. Find the y-coordinate of the hole.

Find the slant asymptote of $f(x) = \dfrac{x^2 + 6x + 4}{x - 3}$.

Find the horizontal asymptote of $f(x) = \dfrac{8x - 6}{5x + 1}$.

Rational Functions: Asymptotes & Holes · 18

ANSWER

-9

Rational Functions: Asymptotes & Holes · 17

ANSWER

$x = -9$ or $x = 8$

Rational Functions: Asymptotes & Holes · 20

ANSWER

$y = 1$

Rational Functions: Asymptotes & Holes · 19

ANSWER

$y = x - 10$

Rational Functions: Asymptotes & Holes · 22

ANSWER

4

Rational Functions: Asymptotes & Holes · 21

ANSWER

$y = x - 1$

Rational Functions: Asymptotes & Holes · 24

ANSWER

$$y = \frac{8}{5}$$

Rational Functions: Asymptotes & Holes · 23

ANSWER

$y = x + 9$