Circuit Training - Asymptotes

Directions: Begin in cell #1. Read the question and do the work necessary to answer it. Circle your answer then search for it. When you find it, call this cell #2 and proceed in this manner until you complete the circuit by returning to the beginning.

Answer: $y = \frac{3}{\pi}$

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

__1_ Find the equation(s) of the vertical asymptotes for the graph of $y = \frac{x-2}{x-3}$. Answer: $-\frac{5}{3}$

Find the zero(s) of $f(x) = \frac{x^2 - 3x + 2}{x + 2}$.

Answer: x = -3

$$x = -3$$

The graph of $y = \tan x$ has infinitely many vertical asymptotes. One of these is...

Answer: x = 2, x = -2

The graph of $f(x) = \frac{x-2}{x^2-4}$ has two places of discontinuity but only one vertical asymptote. Find the equation of the vertical asymptote.

Answer: x = 3

swer:
$$x = 3$$

Find the equation(s) of the vertical asymptotes for the graph of $y = \frac{x-5}{2x+3}$.

 $\nu = 0$ Answer:



Find all of the asymptotes for $p(x) = \frac{2x^2+5}{x^2-2x}$.

Answer: y = x - 5

Write the equation of the asymptote for the graph of $y = -3 + e^x$.

Answer:



Find all of the asymptotes for $y = \frac{3x^2}{x^2+9}$.

Answer: $x = \frac{\pi}{2}$

The graph of $y = \frac{3}{\pi + 2e^x}$ has two horizontal asymptotes. One is y = 0. The other is...

Answer: $-\frac{1}{4}$



\bigcup Find the value of "a" so that the horizontal asymptote of $y = \frac{ax-3}{5x+2}$

Answer:	$x = -\frac{3}{2}$	Answer:	x = 0, y = x
#_3_	Find the equation(s) of the vertical asymptotes for the graph of $y = \frac{2x+1}{x^2-4}$.	#_[6	Find the equation for the slant asymptote to the graph of $f(x) = \frac{x^2-3x-4}{x+2}$.
# _5	x = -2 Find the equation of the horizontal asymptote for the graph of $g(x) = \frac{x-2}{x-3}$.	# <u>13</u>	The function $f(x) = \frac{2x^2 - 7x + 6}{2x - 3}$ has a removable discontinuity (a "hole") at $x = \frac{3}{2}$. What is the y-coordinate of the "hole"?
Answer:	$y=\frac{1}{2}$ The functions $f(x)=\frac{2x+1}{x^2-4}$ and $g(x)=\frac{5}{x+6}$ have the same horizontal asymptote. What is its equation?	Answer: # 18	$y = -3$ Write the equation of the asymptote to the graph of $y = \ln(3 + x)$.
Answer: # 12	1, 2 Find the zero(s) of $g(x) = \frac{x^2-x-2}{x-2}$	Answer:	x = 0, x = 2, y = 2 Find the y-intercept $(0, ?)$ for the graph of $y = \frac{2x+1}{x^2-4}$.
Answer:	y = 3	Answer:	y = 1

15 Find the asymptotes for
$$y = x + \frac{1}{x}$$
.

Answer:
$$y = 1$$

Find the equation of the horizontal asymptote to the graph of $f(x) = \frac{x-5}{2x+3}$.

Circuit Training - Asymptotes

Name:

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			$\overline{}$
Answer:	ν	<u></u>	3

#__1__ Find the equation(s) of the vertical asymptotes for the graph of $y = \frac{x-2}{x-3}$.

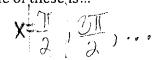
Answer: $-\frac{5}{3}$

Find the zero(s) of $f(x) = \frac{x^2 - 3x + 2}{x + 2} = O$

f(x)=0 (x-a)(x-1)=0solve [x-2](x-1)=0

Answer: x = -3

The graph of $y = \tan x$ has infinitely many vertical asymptotes. One of these is...



Answer: x = 2, x = -2

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Answer: y = 0

Answer: x = 3

Find the equation(s) of the vertical asymptotes for the graph of $y = \frac{x-5}{2x+3}$.

Find all of the asymptotes for $p(x) = \frac{2x^2+5}{x^2-2x}.$ Using degrees match $\frac{1}{1000} = \frac{1}{1000}$

Answer: y = x - 5

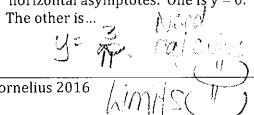
Write the equation of the asymptote for the graph of $y = -3 + e^x$. The following the graph of $y = -3 + e^x$. The following the graph of $y = -3 + e^x$. The following the following the graph of $y = \frac{3x^2}{x^2 + 9}$.

Answer: $x = \frac{\pi}{2}$ Answer: $x = \frac{\pi}{2}$ Answer: $-\frac{1}{4}$

Answer:

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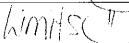
The graph of $y = \frac{3}{\pi + 2e^x}$ has two horizontal asymptotes. One is y = 0.



10 Find the value of "a" so that the horizontal asymptote of $y = \frac{ax-3}{5x+2}$

is
$$y = -\frac{1}{2}$$
.

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Answer:	$x = -\frac{3}{2}$	Answer:	x=0,y=x
#_3	Find the equation(s) of the vertical asymptotes for the graph of $y = \frac{2x+1}{x^2-4}$.	#	Find the equation for the slant asymptote to the graph of $f(x) = \frac{x^2-3x-4}{x+2}$.
	$\begin{array}{c} X^2 - 4 = 0 \\ \times = 2 \end{array}$	×+ 9	$ \begin{array}{c c} x - 5 & \text{num deg} \\ 1 \times 2 - 3x - 4 & \text{1 record} \\ x^2 + 2x & \text{1 then} \\ -5x - 10 & y = x - 5 den, etc. \end{array} $
Answer:	x = -2	Answer:	- 1
#_5_	Find the equation of the horizontal asymptote for the graph of $g(x) = \frac{x-2}{x-3}$. $\frac{\text{degree s}}{\text{match}}$ $\frac{\text{degree s}}{\text{lead}}$	# 13	The function $f(x) = \frac{2x^2 - 7x + 6}{2x - 3}$ has a removable discontinuity (a "hole") at $x = \frac{3}{2}$. What is the y-coordinate of the "hole"? $(x-3)(x-2) = x-3$ $(x-3)(x-2) = x-3$ $(x-3)(x-3) = x-3$
Answer:	$y = \frac{1}{2}$	Answer:	y = -3
# T den	The functions $f(x) = \frac{2x+1}{x^2-4}$ and $g(x) = \frac{5}{x+6}$ have the same horizontal asymptote. What is its equation?	#18	Write the equation of the asymptote to the graph of $y = \ln(3 + x)$.
Answer:	1, 2	Answer:	x=0, x=2, y=2
#	Find the zero(s) of $g(x) = \frac{x^2-x-2}{x-2}$ $(x+1)$	#	Find the y-intercept (0,?) for the graph of $y = \frac{2x+1}{x^2-4}$. $x = 0$ from $y = \frac{2(0)+1}{(0)^2-4}$
Answer:	y = 3	Answer:	y = 1
X X + 1	Find the asymptotes for $y = x + \frac{1}{x}$. Find (amount of the plant) Find (amount	#_6 rator res	Find the equation of the horizontal asymptote to the graph of $f(x) = \frac{x-5}{2x+3}$.
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