

2-7 Graphs of Rational Functions

Graphing: y-intercept: $(0, -\frac{4}{10})$ x-intercepts: $(-2, 0)$ vertical asymptotes: zeros of denominator
if $n < m$, x-axishorizontal asymptotes: if $n = m$, $y = \frac{a}{b}$
if $n > m$, none

holes: cancel

Oct 5-3:40 PM

Oct 4-10:53 AM

Ex 1 Graph: $f(x) = \frac{2x+4}{x^2+3x-10}$

$$\text{y-int. } (0, -\frac{4}{10})$$

$$\text{x-int. } (-2, 0)$$

$$\text{(make numerator } = 0)$$

$$\text{V.A.: } x=2 \quad x=-5$$

$$\text{H.A.: } x\text{-axis}$$

$$\text{Holes: none}$$

Slant asymptotes — if n is one more than m

Oct 4-10:54 AM

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Ex 2 Graph: $f(x) = \frac{4x^2 - 2x + 1}{x-1}$

$$\text{y-int. } (0, -1)$$

$$\text{x-int. } (-, 0) \text{ none}$$

$$\text{V.A.: } x=1$$

$$\text{H.A.: none}$$

$$\text{S.A.: } \begin{array}{r} 1 \\ 4 \end{array} \begin{array}{r} -2 \\ 4 \end{array} \begin{array}{r} 1 \\ 2 \end{array}$$

$$\frac{4}{4} \frac{2}{2} \frac{1}{1}$$

$$y = 4x + 2$$

Ex 3 Graph:

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

Oct 4-10:56 AM

Oct 4-10:56 AM

Homework
p.161
#9-19, 43-47 odds

Oct 4-11:10 AM