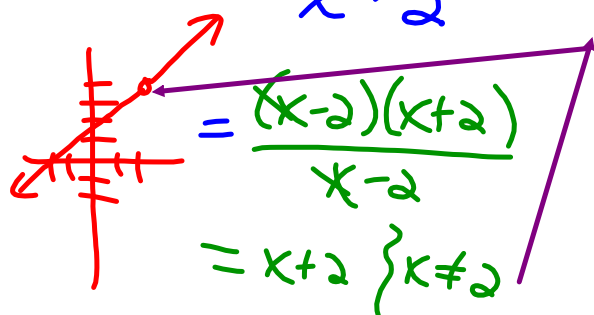


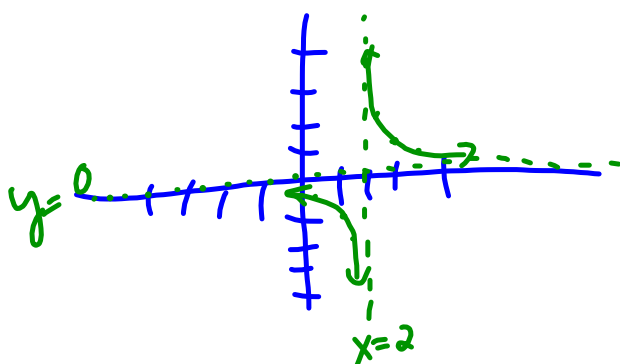
Additional Lesson Examples:

$$a) f(x) = \frac{x^2 - 4}{x - 2}$$

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

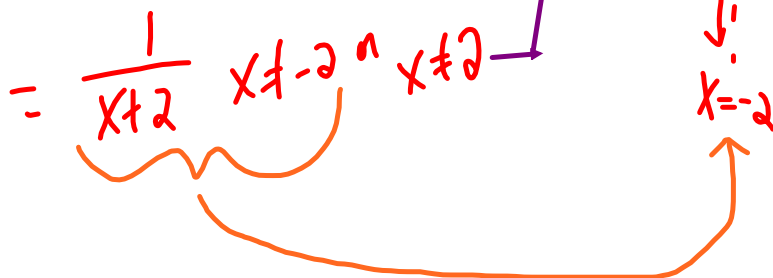
$$= x+2 \quad \left. \begin{array}{l} \\ \end{array} \right\} x \neq 2$$


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



$$c) h(x) = \frac{x-2}{x^2-4}$$

$$= \frac{\cancel{x-2}}{\cancel{(x-2)}(x+2)}$$

$$= \frac{1}{x+2} \quad \left. \begin{array}{l} x \neq -2 \\ x \neq 2 \end{array} \right\}$$


Additional Lesson Examples:

$$d) m(x) = \frac{x-2}{x^2+4}$$

$$x^2+4 \neq 0$$

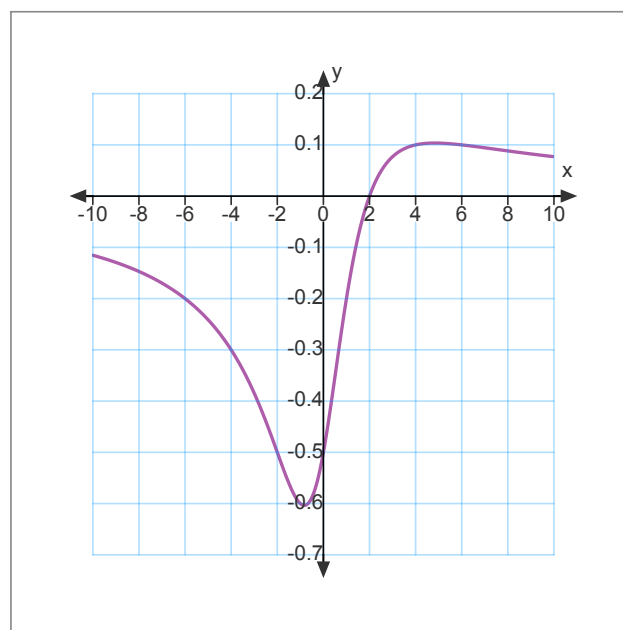
$$x^2 = -4$$

no restrictions

\therefore no asymptotes

did not reduce/cancel

\therefore no holes



$$y = \frac{x}{x^2}$$

Additional Homework Questions Assigned

MCR3UI

Graphs of Rational Functions

Determine any Vertical Asymptotes or Holes for the following functions. Graph each function.

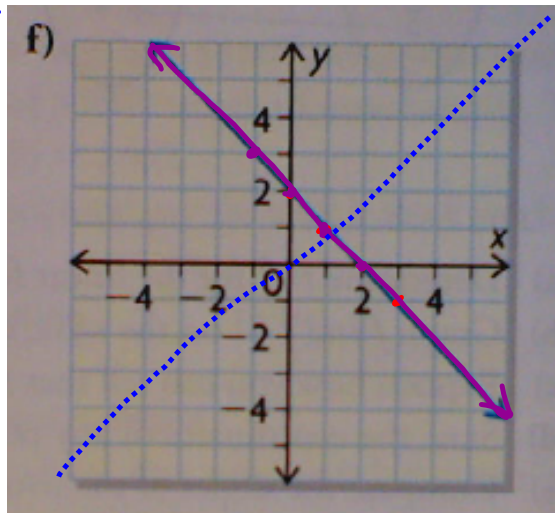
1.
$$f(x) = \frac{x^2 - 2x - 3}{x - 3}$$

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

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

Homework Question corrected

$$y = -x + 2$$
$$x = -y + 2$$
$$y = -x + 2$$



$$(2, 0) \rightarrow (0, 2)$$
$$(1, 1) \rightarrow (1, 1)$$
$$(0, 2) \rightarrow (2, 0)$$
$$(3, -1) \rightarrow (-1, 3)$$

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