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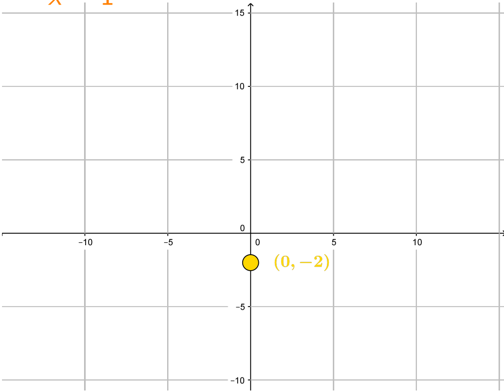

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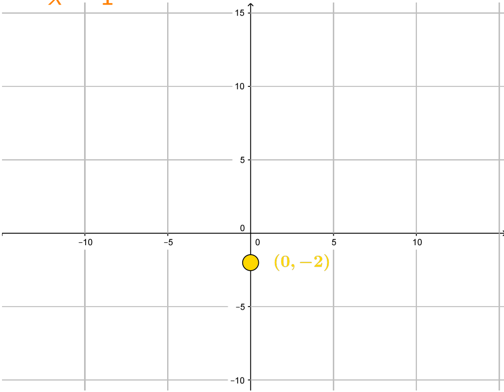

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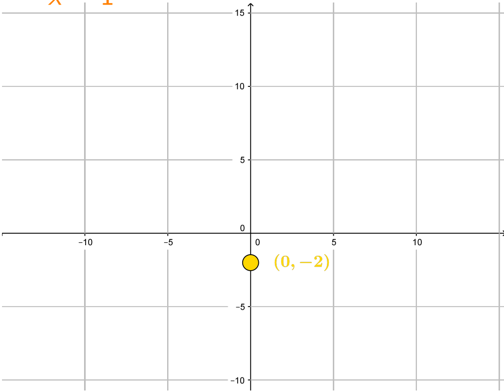

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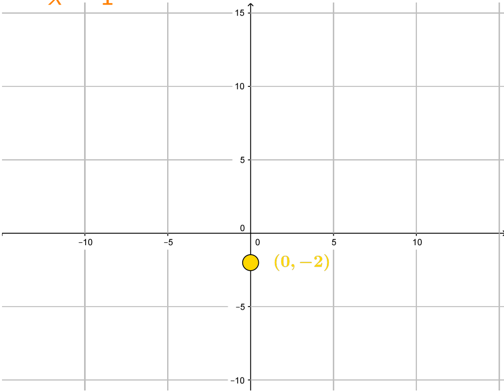

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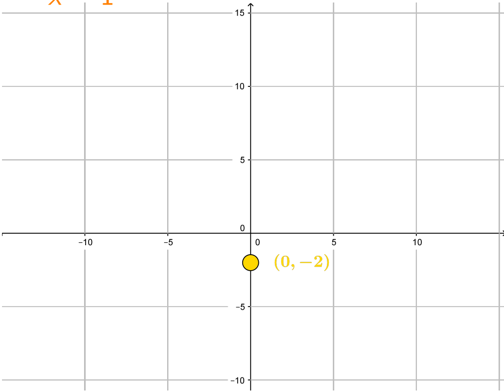

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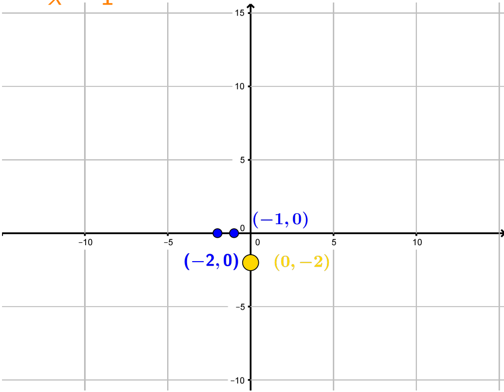

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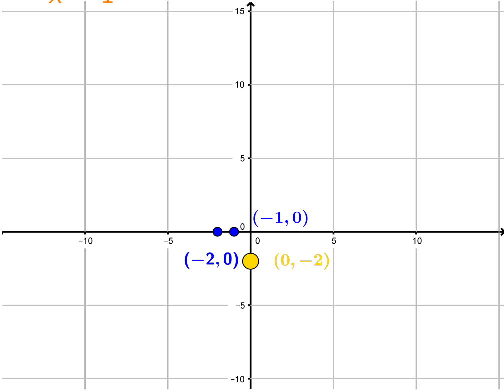

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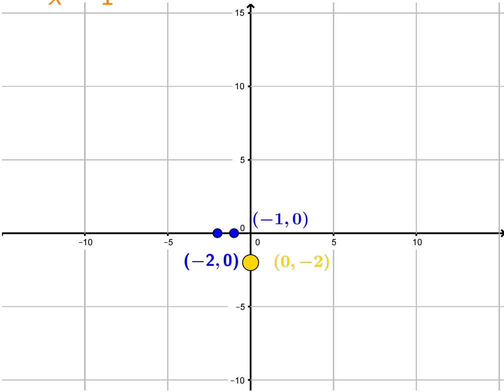

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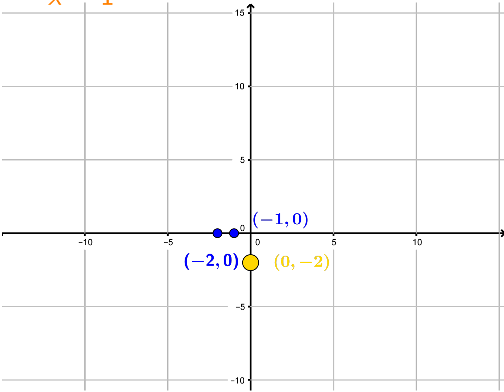

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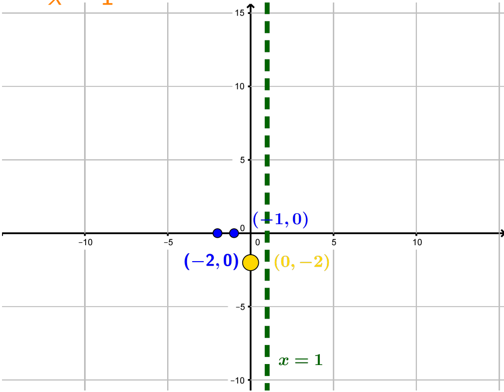

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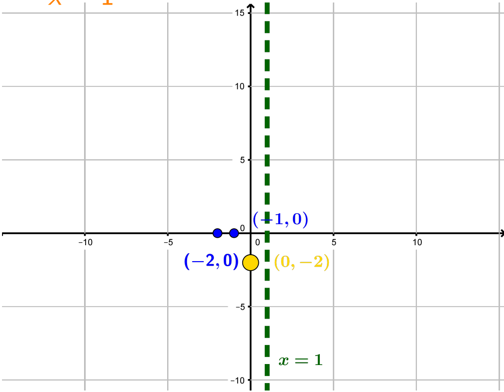

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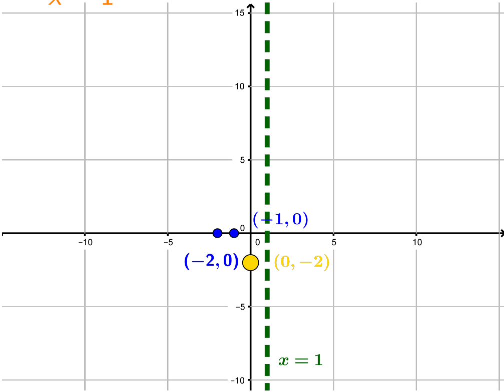

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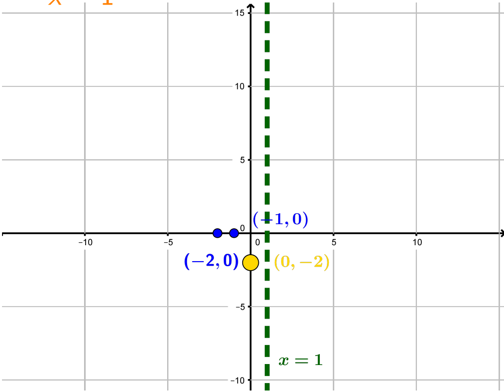

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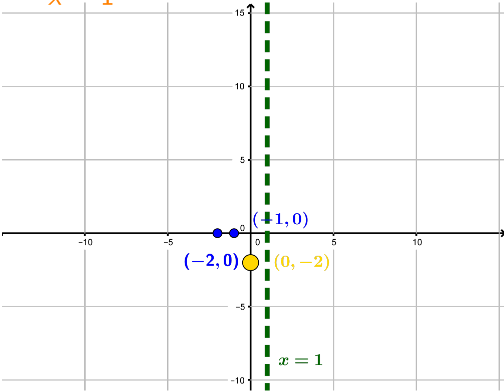

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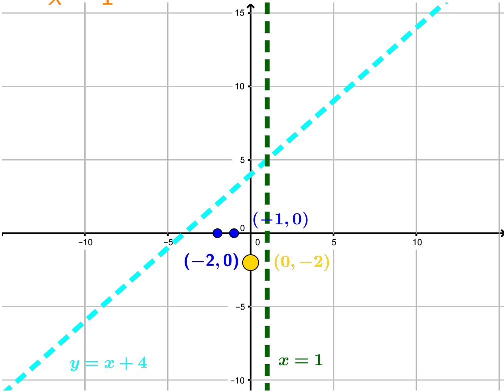

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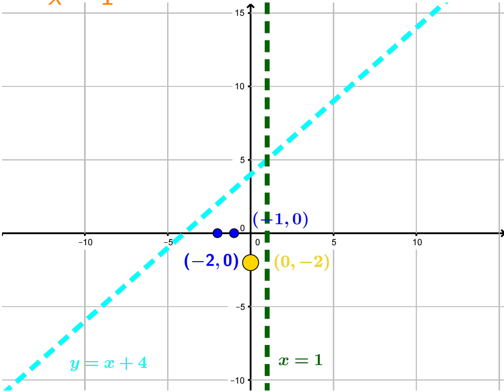

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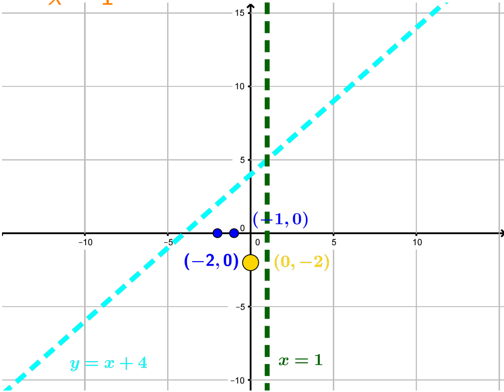

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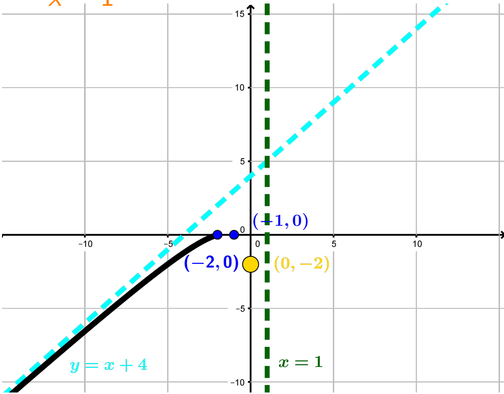

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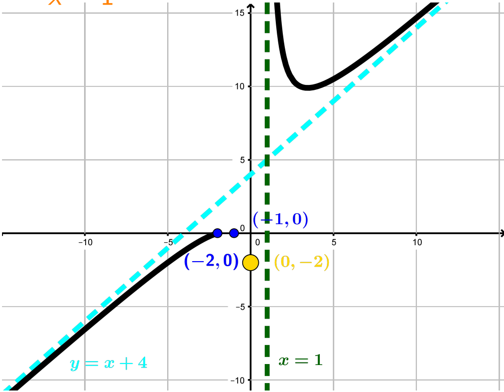

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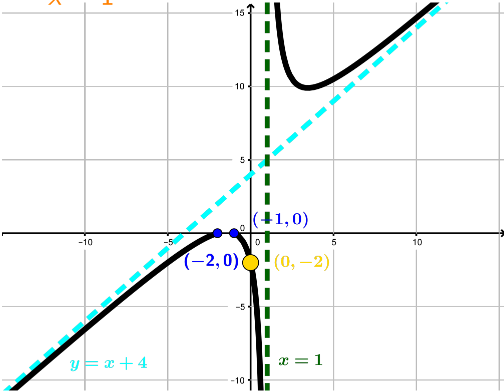

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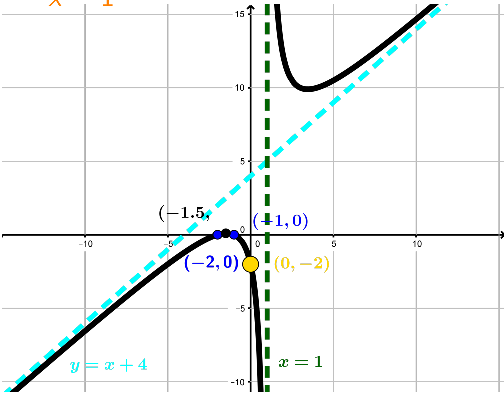

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Since there are no more $x-$int we know where $f(x)$ can change sign

Graphing Rational Functions - Example 7

Example: Sketch the graph of:

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

We need to find:

The $y-$int: $x = 0$

$f(0) = \frac{0^2+3\cdot 0+2}{0-1} = -2 : (0, -2)$

The $x-$int: $y = f(x) = 0$

We need to solve $0 = \frac{x^2+3\cdot x+2}{x-1}$

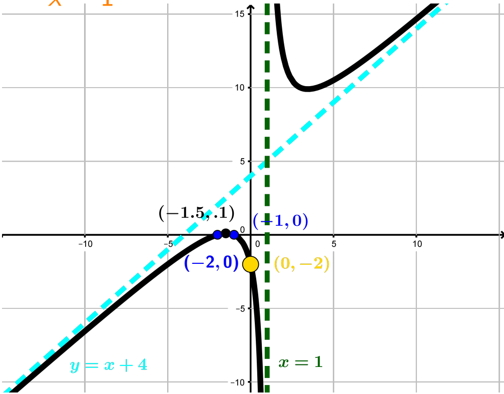
We can by solving:

$0 = x^2 + 3\cdot x + 2$

This gives: $x = -1, -2$

Vertical asymptotes: $x - 1 = 0$

Solving this gives: $x = 1$



The End Behavior: $x \to \pm\infty$ Called a *skew-asymptote*

We saw that since $deg\left(x^2 + 3\cdot x + 2\right) > deg\,(x - 1)$ we need to Divide

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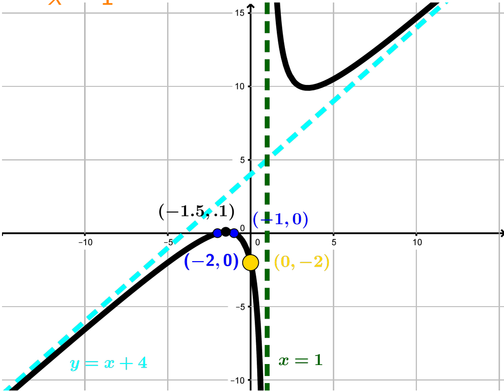

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