

MAC 1140

3.6 Rational Functions with Horizontal Asymptote Intercepts

#1 – 4: Sketch the following Rational Functions. State the Vertical Asymptotes, Horizontal Asymptotes,  $x$ -intercepts,  $y$ -intercepts, and the Horizontal Asymptote intercepts. State the Domain and Range. Put your asymptotes in as dotted lines and all intercepts in their correct locations.

1)  $y = \frac{x^2 - 4x + 3}{x^2 + 2x + 1}$

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2)  $y = \frac{x^2 - 2x - 8}{x^2 - 4x + 3}$

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3)  $y = \frac{x^2 + 2x + 1}{x^2 - 4x + 3}$

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4)  $y = \frac{2x^2 - 3x - 2}{x^2 - 3x - 4}$