

 **Holes: (x, y)**

* Factor numerator and denominator
* Cancelled factors are holes – set cancelled factor(s) equal to 0 and solve for x and plug back into the beautiful new equation for y value of hole(s).

**Asymptotes:**

Vertical X = Set denominator = 0 (where the function in undefined)

Horizontal Y = Check highest degree of numerator and denominator

* Top Heavy – Must divide to get Slant Asymptote
* Bottom Heavy – Y = 0
* Even Steven – Y = leading coefficient ratio

**Intercepts:**

X-intercept (#, 0) Set Y = 0

 Y-intercept (0, #) Set all X’s to X = 0 (plug and chug to cover up and look at constants)



Final Exam Formula Sheet



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