Writing Rational Functions

For the Teacher

Objectives:

Using the **GUESS RATIONAL** aplet, the student will write the equation of a rational function given horizontal and vertical asymptotes and a root.

Functionality:

When the student presses **START**, the **GUESS RATIONAL NOTE** will be displayed.

After reading the note, the student should press **SKETCH** for further explanation.

VIEWS allows the student to select a new problem, enter the rational function, vertically zoom to see a complete graph, or view the problem.

New Problem displays a graph with horizontal and vertical asymptotes and a root for the student to write the rational function that has these characteristics.

Guess Function prompts the user to enter the coefficients & constants of the numerator & denominator of the function.

After entering the rational function, a message box will display the status of the entered information. **GREAT JOB!** indicates the function is correct. **NUMERATOR IS CORRECT**, **DENOMINATOR IS CORRECT**, or **NEITHER IS CORRECT** could also be displayed

After the message box, the graph of the student's rational function will be plotted on the original problem for comparison purposes.

In the event that a complete graph is not seen, **Y-Zoom** allows the student to vertically zoom in or out by a factor of 2 or 4.

See Problem allows the student to view the problem again if needed.

🗱 GUESS RATIONAL NOTE 🕯 e vertical and izontal asymptotes a rational ction are sketched itionally, its t(s), if it has The SPACE PAGE V A...Z BKSP I X=E A(X-B)(X-C) (X-D)(X-E) X=B X=0 <u>Y=A</u> STOP NEWP PAGE V TEXT DRAW New Problem Guess Function Y-Zoom See Problem Start CANCL DK 8=-21 =1_ NUMERATOR = AX^2+BX+C a = **i** ENTER THE VALUE OF A (AN(L DK INDENOMINATOR = DX^2+EX+F GREAT JOB! ENTER THE VALUE OF F F1(8): UNDEFINED MENU §Y-200M Y-Zoom Out x 2 Zoom Out > Zoom In x Zoom In x 2 CANCL DK K=-21 Y=1

Programs associated with this aplet:

.GRAT.GR, .GRAT.NP, .GRAT.GA, .GRAT.YZ, .GRAT.SP, .GRAT.ST, .GRAT.SV