

TASK 5.3.5: REFLECT AND APPLY: WRITING FUNCTION RULES

Solutions

Use what you know about rational functions to write function rules that have the particular characteristics. Verify your function by graphing it on the calculator. Be prepared to demonstrate your functions in class.

1. Write a rule for a function that has at least two vertical asymptotes.

Answers will vary. Look for a function that has at least two distinct zeros in the denominator.

2. Write a rule for a function that has one vertical asymptote and two removable discontinuities.

Answers will vary. Look for a function that has three distinct zeros in the denominator, two of which also appear in the numerator.

3. Write a rule for a function that has an oblique asymptote and two vertical asymptotes.

Answers will vary. Look for a function that has two distinct zeros in the denominator and has a numerator that has a leading term of one degree greater than the leading term of the denominator.

4. Write a rule for a function that has a horizontal asymptote that is negative.

Answers will vary. Look for a function that has leading terms of the same degree and leading coefficients that have opposite signs.

