**Rational Expressions/Function Operations Activity**

**Part A: Matching Rational Expressions**

With a partner cut out all of the functions and the graphs and match them on the next page.

For all functions a > 0 b > 0

 a. 

 b. 

 c. 

 d. 

 e. 

 f. 

Function Graph

Please explain and mathematically justify your choice.

Function Graph

Please explain and mathematically justify your choice.

Function Graph

Please explain and mathematically justify your choice.

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Please explain and mathematically justify your choice.

Function Graph

Please explain and mathematically justify your choice.

**Part B: Division of Functions**

Given the functions:

a(*x*) = 2*x* + 6 b(*x*) = 3*x* – 9 c(*x*) = *x*2 d(x) = *x*2 – 9 e(x) = *x*2 – 3*x*

State the quotient of 2 different functions that describe the following:

  indeterminant case

 has a vertical asymptote at x = 0  has a point of discontinuity at x = 3

 has two vertical asymptotes  has a domain 