Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_FA Rational Functions Basic Vocabulary Period\_\_\_\_\_\_

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| Asymptotes (Mark all that apply)   1. \_\_\_\_\_\_\_\_ Which type(s) of rational function have a horizontal asymptote?    1. Any rational function that has a numerator whose degree is smaller than its denominator’s degree    2. Any rational function that has a numerator whose degree is greater than its denominator’s degree    3. Any rational function whose numerator’s degree is equal to its denominator’s degree    4. none of these 2. \_\_\_\_\_\_\_ What causes a vertical asymptote?    1. The roots of the numerator    2. The roots of the denominator    3. The x intercepts of the rational function    4. The y intercept of the rational function    5. The lead coefficients of the numerator and denominator    6. The x axis    7. None of these 3. \_\_\_\_\_\_\_ What causes a horizontal asymptote?    1. The roots of the numerator    2. The roots of the denominator    3. The x intercepts of the rational function    4. The y intercept of the rational function    5. The lead coefficients of the numerator and denominator    6. The x axis    7. None of these 4. \_\_\_\_\_\_\_ Given , what is the horizontal asymptote?    1. y = 0    2. x = 0    3. x = 2    4. x = -2    5. This rational function does not have a horizontal asymptote    6. None of these | 1. \_\_\_\_\_\_\_ Given g, what is the horizontal asymptote?    1. y = 0    2. x = 0    3. x = 2    4. x = -2    5. This rational function does not have a horizontal asymptote    6. None of these 2. \_\_\_\_\_\_\_ Given h, what is the horizontal asymptote?    1. y = 0    2. x = 0    3. x = 2    4. x = -2    5. This rational function does not have a horizontal asymptote    6. None of these 3. \_\_\_\_\_\_\_ Given j, what is the horizontal asymptote?    1. y = 0    2. x = 0    3. x = 2    4. x = -2    5. This rational function does not have a horizontal asymptote    6. None of these |

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| Asymptotes (Mark all that apply)   1. \_\_\_\_\_\_\_ Given , what is the vertical asymptote?    1. y = 0    2. x = 0    3. x = 2    4. x = -2    5. This rational function does not have a vertical asymptote    6. None of these   Intercepts & Asymptotes  Determine the intercepts and asymptotes of each of the rational functions (if NONE, then state so)  X intercept(s) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Y intercept \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Horizontal asymptote \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Vertical asymptote \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  X intercept(s) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Y intercept \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Horizontal asymptote \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Vertical asymptote \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  X intercept(s) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Y intercept \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Horizontal asymptote \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Vertical asymptote \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | X intercept(s) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Y intercept \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Horizontal asymptote \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Vertical asymptote \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  X intercept(s) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Y intercept \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Horizontal asymptote \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Vertical asymptote \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  X intercept(s) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Y intercept \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Horizontal asymptote \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Vertical asymptote \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  X intercept(s) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Y intercept \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Horizontal asymptote \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Vertical asymptote \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   1. Explain why number 15 has a “hole” in its graph |