**Day 3: AA.15 & AA.16 (Rational Expressions)**

AA.15: Find values of a variable for which an algebraic fraction is undefined

AA.16: Simplify fractions with polynomials in the numerator and denominator by factoring both and renaming them to lowest terms

|  |
| --- |
| **GRAPHING CALCULATOR**  Rational Expression is **Undefined** when the denominator equals zero.  *To find the value that makes the expression undefined, set the denominator equal to zero.*  ***\*\*\*Use your calculator to substitute in your choices into the denominator to find which***  ***one gives zero*** |
| **To Simplify**   1. Factor numerator and denominator   (Use GCF, Difference of 2 Perfect Squares or Trinomial Factoring)   1. Cancel like terms |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1. | For all values of *x* for which the expression is defined,  is equivalent to   |  |  | | --- | --- | | 1) |  | | 2) |  | | 3) |  | | 4) |  | |
| 2. | **Maria** answered the question below on the IA Regents. Is she correct or incorrect?  If she is incorrect please explain what mistake you think she may have made.  The function y =  is undefined when the value of *x* is  (1) 0 or 5 (3) 5, only  (2) 5 or -5 (4) -5, only |
| 3. | Which expression represents  in simplest form?   |  |  | | --- | --- | | 1) |  | | 2) |  | | 3) |  | | 4) | -1 | |  |  | |
| 4. | Which value of *x* makes the expression  undefined?  (1) -5 (3) 3  (2) 2 (4) -3 |
| 5. | The area of a rectangle is represented by , if the length is represented by  Express the width as a binomial? |

**PRACTICE QUESTIONS:**

|  |  |
| --- | --- |
| 1. | Which value of *x* makes the expression  undefined?  1) -4  2) -3  3) 3  4) 0 |
| 2. | Which expression represents  in simplestform?  1) 0  2) 2*x*  3) 4*x*  4) 2*x* + 2 |
| 3. | For which value of *x* will the fraction  be undefined?  1) -2  2) 2  3) 0  4) -4 |
| 4. | For what values of *x* is the fraction  undefined? |

|  |  |
| --- | --- |
| 5. | The expression  is equivalent to  1)  2) -  3) -  4) |
| 6. | Simplify: |