**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

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| **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
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| 1. | For all values of *x* for which the expression is defined,  is equivalent to

|  |  |
| --- | --- |
| 1) |  |
| 2) |  |
| 3) |  |
| 4) |  |

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| 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 |
|  |  |

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| 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 $x^{2}-5x-14$, if the length is represented by $\left(x-7\right),$Express the width as a binomial?  |

**PRACTICE QUESTIONS:**

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| 1. | Which value of *x* makes the expression  undefined?1) -42) -33) 34) 0  |
| 2.  | Which expression represents  in simplestform?1) 02) 2*x*3) 4*x*4) 2*x* + 2 |
| 3.  | For which value of *x* will the fraction  be undefined?1) -22) 23) 04) -4 |
| 4. | For what values of *x* is the fraction  undefined? |

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| 5.  | The expression  is equivalent to1) 2) -3) -4)  |
| 6.  | Simplify:  |