Name: _____ **Date:** _____

Day 2: AA.19 and AA.20 (Factoring)

AA.19: Identify and factor the difference of two perfect squares

AA.20: Factor algebraic expressions completely, including trinomials with lead coefficient of one (after factoring a GCF)

GRAPHING CALCULATOR

Method 1: Put the expression in y_1 and the answer in choices in y_2 and see if the graphs lie on top of one another.

Method 2: Put the expression on the home screen. Hit 2nd test = than type equivalent expression. If the logical expression (Boolean Value) 1 = true and 0 = false

1.	When $a^3 - 4a$ is factored completely, the result is 1) $(a-2)(a+2)$ 2) $a(a-2)(a+2)$ 3) $a^2(a-4)$ 4) $a(a-2)^2$
2.	Xavier answered the question below on the IA Regents. Is he correct or incorrect? If he is incorrect please explain what mistake you think he may have made. Which expression is equivalent to $121 - x^2$? 1) $(x-11)(x-11)$ 2) $(x+11)(x-11)$ 3) $(11-x)(11+x)$ 4) $(11-x)(11-x)$
3.	What are the factors of $x^2 - 10x - 24$? 1) $(x-4)(x+6)$ 2) $(x-4)(x-6)$ 3) $(x-12)(x+2)$ 4) $(x+12)(x-2)$
4.	Factored completely, the expression $2y^2 + 12y - 54$ is equivalent to 1) $2(y+9)(y-3)$ 2) $2(y-3)(y-9)$ 3) $(y+6)(2y-9)$ 4) $(2y+6)(y-9)$ Hint: Factor completely means to take out a GCF first☺

PRACTICE QUESTIONS:

1.	If Ann correctly factors an expression that is the difference of two perfect squares, her factors could be 1) $(2x+y)(x-2y)$ 2) $(2x+3y)(2x-3y)$ 3) $(x-4)(x-4)$ 4) $(2y-5)(y-5)$
2.	Which expression represents $36x^2 - 100y^6$ factored completely? 1) $2(9x+25y^3)(9x-25y^3)$ 2) $4(3x+5y^3)(3x-5y^3)$ 3) $(6x+10y^3)(6x-10y^3)$ 4) $(18x+50y^3)(18x-50y^3)$
3.	Factored completely, the expression $3x^3 - 33x^2 + 90x$ is equivalent to 1) $3x(x^2-33x+90)$ 2) $3x(x^2-11x+30)$ 3) $3x(x+5)(x+6)$ 4) $3x(x-5)(x-6)$
4.	Written in simplest factored form, the binomial $2x^2 - 50$ can be expressed as 1) $2(x-5)(x-5)$ 2) $2(x-5)(x+5)$ 3) $(x-5)(x+5)$ 4) $2x(x-50)$

5.	One of the factors of $4x^2 - 9$ is 1) $(x+3)$ 2) $(2x+3)$ 3) $(4x-3)$ 4) $(x-3)$
6.	Which expression is equivalent to $121 - x^2$? 1) $(x-11)(x-11)$ 2) $(x+11)(x-11)$ 3) $(11-x)(11+x)$ 4) $(11-x)(11-x)$
6.	Which expression is a factor of $n^2 + 3n - 54$? 1) $n+6$ 2) n^2+9 3) $n-9$ 4) $n+9$
7.	What are the factors of the expression $x^2 + x - 20$? 1) $(x+5)$ and $(x+4)$ 2) $(x+5)$ and $(x-4)$ 3) $(x-5)$ and $(x+4)$ 4) $(x-5)$ and $(x-4)$

8.	Factored completely, the expression $2x^2 + 10x - 12$ is equivalent to 1) $2(x-6)(x+1)$ 2) $2(x+6)(x-1)$ 3) $2(x+2)(x+3)$ 4) $2(x-2)(x-3)$
9.	If $x+2$ is a factor of $x^2 + bx + 10$, what is the value of *b*?
10.	Factor: $x^2 - 10x + 21$
11.	Factor: $4x^3 - 2x$
12.	Factor completely: $4x^3 - 36x$