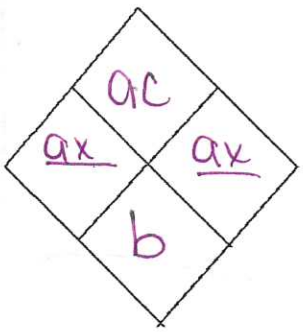
	Name:	Date:
	Goal: Factoring using the Diamond Method when $a \neq 1$	Class/Period:

Questions/Main Ideas:	Notes:

REMEMBER.....

$ax^2 + bx + c$



Step 1: Set up your diamond

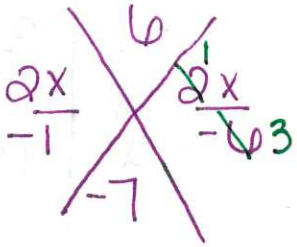
Step 2: List the factors of the top #

Pick the pair that add up to b

Step 4: looking at the sides

Step 5:

Factor: $2x^2 - 7x + 3$

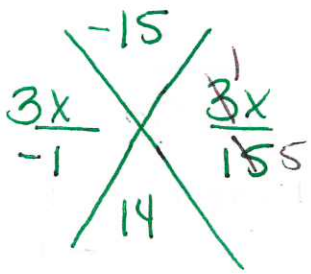


6	
1	6
-1	-6
2	3
-2	-3

$= -7$

$(2x - 1)(x - 3)$

Factor: $3x^2 + 14x - 5$



-15	
1	-15
-1	15
3	-5
-3	5

$= 14$

$(3x - 1)(x + 5)$

What happens if *a* is negative?

Check to see if the leading factor is negative and if it is you need to factor out a negative 1.

Step 1: pull out the negative 1

Step 2: Set up your diamond
Identify a,b,c

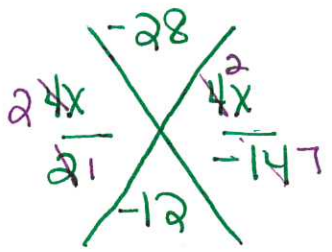
Step3: List the factors of the top #

Pick the pair that add up to b

Step 4: looking at the sides reduce if possible.

Step 5: Answer
( )( )

Factor: $-4x^2 + 12x + 7$ ⇒ $-(4x^2 - 12x - 7)$

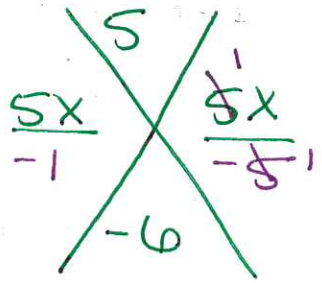


-28	
1	-28
-1	28
2	-14
-2	14

$= -12$

$-(2x+1)(2x-7)$

$-5x^2 + 6x - 1$ ⇒ $-(5x^2 - 6x + 1)$



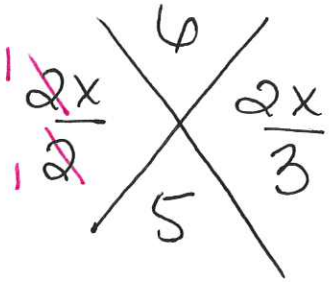
5	
1	5
-1	-5

$= -6$

$-(5x-1)(x-1)$

Factor: $-2x^2 - 5x - 3$

$-(2x^2+5x+3)$



6	
1	6
2	3

$= 5$

$-(x+1)(2x+3)$

Challenge:

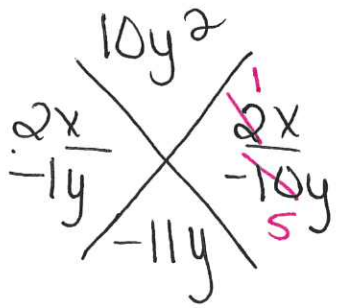
Factor: $2x^2 - 11xy + 5y^2$

ax^2+bx+c

$a = 2$

$b = -11y$

$c = 5y^2$



10y²	
1y	10y
-1y	-10y

$= -11y$

$(2x-1y)(x-5y)$