

Warm Up
Algebra Day 40
Factoring Trinomials

1. Think of two **integer** (whole numbers that can be positive or negative) that:
 - A. multiply to give you 24, but the **SAME** two numbers will add to give you 11.
 - B. multiply to give you -15, but the **SAME** two numbers will add to give you -2.
 - C. multiply to give you -36, but the **SAME** two numbers will add to give you 11.
 - D. multiply to give you 50, but the **SAME** two numbers will add to give you -15.

2. Factor: (this is D.O.T.S.) $\frac{16}{9}x^{12} - 81x^{38}$

3. SAT Prep: If $x^2 - y^2 = 54$, and $x - y = 9$, what does $x + y$ equal?

4. Remember factoring comes in several forms: GCF, Difference of two squares, trinomials, difference of cubes and grouping. We covered GCF and DOTS in the last class. The following is an example of GCF...greatest common factor (where we "pull" out what's in common between all terms).
Factor: $16x^5 + 22x^{11} + 4 =$ _____

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Did You Hear About...?

$(t+3)(t-2)$	STARTED	A	B	C	D
$(t+6)(t-1)$	WHO	E	F	G	H
$(t+6)(t-2)$	RED	I	J	K	L
$(t+5)(t-2)$	THE	M	N	O	P
$(t-9)(t+8)$	BECAUSE				?
$(t-4)(t+2)$	JOINED				
$(t-4)(t+5)$	ARMY				
$(t-10)(t+2)$	CROSS				
$(t+7)(t-3)$	CAT				
$(t+4)(t-3)$	AFTER				
$(t-11)(t+1)$	THE				

Factor each trinomial below. Find the factored form in the answer column nearest the exercise, and notice the word beneath it. Write this word in the box containing the letter of that exercise. Keep working and you will hear about a kitty cat.

$(x-18)(x+1)$	WANTED
$(x+9y)(x-4y)$	KIT
$(x-18y)(x+2y)$	BAND
$(x-12y)(x+3y)$	AID
$(x+5y)(x-3y)$	A
$(x+8)(x-3)$	TO
$(x+6)(x-4)$	HELP
$(x-25y)(x+2y)$	IT
$x^2 + 3x - 18$	LION
$x^2 - 17x - 18$	(x-12)(x+2)
$x^2 + 5x - 24$	BE
$x^2 - 10x - 24$	(x-10)(x+2)
$x^2 + 2xy - 15y^2$	FIRST
$x^2 - 5xy - 50y^2$	
$x^2 - 9xy - 36y^2$	
$x^2 + 5xy - 36y^2$	

A DRASTIC WAY TO DIET

AN EXTREME BUT EFFECTIVE WAY TO DIET IS HIDDEN IN THE LETTERS BELOW.
TO FIND IT:

Factor each trinomial below. Find the factored form in the set of answers under the exercise and cross out the letter above it. When you finish, the diet will remain. You might call it the "Algebra diet."



- 1 $m^2 + 8m + 7$
- 2 $m^2 + 5m + 6$
- 3 $m^2 + 10m + 9$
- 4 $m^2 - 6m + 8$
- 5 $m^2 - 8m + 12$
- 6 $m^2 + 11m + 24$
- 7 $d^2 - 8d + 15$
- 8 $d^2 - 12d + 20$
- 9 $d^2 + 14d + 13$
- 10 $d^2 - 13d + 36$
- 11 $d^2 + 17d + 30$
- 12 $d^2 + 9d + 18$

- 13 $x^2 + 5xy + 4y^2$
- 14 $x^2 - 18xy + 32y^2$
- 15 $x^2 - 13xy + 40y^2$
- 16 $x^2 + 7xy + 12y^2$
- 17 $x^2 - 27xy + 26y^2$
- 18 $x^2 + 19xy + 60y^2$

G	E	B	A	S	U	T	O	Y	F	N	U	L	E	O	M	A	T	O	R	E	G	I	A	N	L	T
($m - 2$) ($m - 4$)	($m + 9$) ($m + 1$)	($m + 8$) ($m + 1$)	($m - 2$) ($m - 6$)	($m + 7$) ($m + 1$)	($m + 3$) ($m + 4$)	($m + 2$) ($m + 3$)	($m + 8$) ($m + 3$)	($m - 2$) ($m - 8$)	($m + 1$) ($m + 13$)	($d + 2$) ($d + 9$)	($d + 5$) ($d + 15$)	($d - 2$) ($d - 18$)	($d - 5$) ($d - 3$)	($d - 10$) ($d - 2$)	($d - 2$) ($d - 4$)	($d - 4$) ($d - 9$)	($d + 6$) ($d + 3$)	($x - 16y$) ($x - 2y$)	($x + 4y$) ($x + 3y$)	($x + 2y$) ($x + 4y$)	($x + 5y$) ($x + 8y$)	($x - 2y$) ($x - 13y$)	($x - 26y$) ($x - y$)			