What Happened When the Boarding House Blew Up?

Factor each trinomial below. Find one of the factors in **each** column of binomials. Notice the letter next to one factor and the number next to the other. Write the letter in the box at the bottom of the page that contains the matching number.

(1) $3x^2 + 7x + 2$
(2) $2x^2 + 5x + 3$
(3) $3x^2 - 16x + 5$
(4) $7x^2 - 9x + 2$
(5) $6u^2 + 5u + 1$
(6) $8u^2 - 9u + 1$
(7) $10u^2 + 17u + 3$
(8) $9u^2 - 9u + 2$
(9) $5u^2 + 11u + 6$

(5) $(5u + 3)$
(3) $(x - 1)$
(8) $(3x + 1)$
(14) $(3u - 1)$
(6) $(2u + 3)$
(15) $(x + 1)$
(9) $(5u + 6)$
(7) $(2u + 1)$
(11) $(3x - 1)$
(17) $(u - 1)$

(Y) $(3u - 2)$
(E) $(x - 5)$
(G) $(8u - 1)$
(O) $(7x - 2)$
(R) $(5u + 1)$
(W) $(x + 2)$
(L) $(7x + 2)$
(I) $(2x + 3)$
(E) $(u + 1)$
(S) $(3u + 1)$

(10) $3n^2 + 2n - 1$
(11) $5n^2 - 4n - 1$
(12) $2n^2 + 5n - 3$
(13) $7n^2 - 13n - 2$
(14) $3t^2 + 14t - 5$
(15) $4t^2 - 11t + 7$
(16) $6t^2 + 5t - 1$
(17) $3t^2 - 20t - 7$

(12) $(3t - 1)$
(5) $(n - 1)$
(4) $(3t + 1)$
(10) $(n - 2)$
(13) $(t + 1)$
(2) $(3n - 1)$
(16) $(2n - 1)$
(4) $(3t - 7)$
(1) $(4t - 7)$

(N) $(n + 3)$
(R) $(t - 1)$
(P) $(2t + 1)$
(O) $(n + 1)$
(F) $(t + 5)$
(E) $(5n + 1)$
(M) $(t - 7)$
(R) $(7n + 1)$
(L) $(6t - 1)$

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

OBJECTIVE 3–o: To factor trinomials of the form $ax^2 + bx + c$, where a is a positive integer greater than 1.

WHAT DID MRS. ZLING SAY WHEN MR. ZLING SAID HE WAS GOING MOUNTAIN CLIMBING IN THE HIMALAYAS?

Factor each trinomial below. Find both factors in the rectangle below and cross out each box containing a factor. You will cross out **two** boxes for each exercise. When you finish, print the letters from the remaining boxes in the squares at the bottom of the page.

1. $6x^2 + 19x + 3$
2. $5x^2 - 9x - 2$
3. $9x^2 + 15x + 4$
4. $7x^2 + x - 8$
5. $2x^2 - 21x + 40$
6. $15m^2 + 19m + 6$
7. $8m^2 - 5m - 3$
8. $4m^2 - 17m + 18$
9. $14m^2 + 17m - 22$
10. $3m^2 - m - 30$

TH $(4m - 9)$	**AT** $(3x + 1)$	**PA** $(m - 2)$	**DO** $(m - 3)$	**NE** $(2x - 5)$	**XT** $(3m - 10)$	**CK** $(14m - 11)$	**YO** $(2m - 3)$	**UR** $(5x + 1)$
UP $(6x + 1)$	**UW** $(15m + 1)$	**IN** $(x + 3)$	**PL** $(m + 2)$	**AN** $(x + 4)$	**DA** $(5m + 3)$	**RE** $(x - 2)$	**MA** $(3m + 2)$	**TT** $(9x + 2)$
CO $(7x + 8)$	**LD** $(3x + 4)$	**IB** $(7x + 2)$	**ER** $(8m + 3)$	**AJ** $(m + 3)$	**ET** $(7m + 2)$	**ON** $(x - 8)$	**HI** $(m - 1)$	**GH** $(x - 1)$

OBJECTIVE 3–o: To factor trinomials of the form $ax^2 + bx + c$, where a is a positive integer greater than 1.

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
$(m-2)(m-4)$	$(m+9)(m+1)$	$(m+8)(m+1)$	$(m-2)(m-6)$	$(m+7)(m+1)$	$(m+3)(m+4)$	$(m+2)(m+3)$	$(m+8)(m+3)$	$(m-2)(m-6)$	$(d+1)(d+13)$	$(d+2)(d+9)$	$(d+2)(d+15)$	$(d-5)(d-3)$	$(d-10)(d-2)$	$(d-2)(d-18)$	$(d-5)(d-4)$	$(d-4)(d-9)$	$(d+6)(d+3)$	$(x-16y)(x-2y)$	$(x+4y)(x+15y)$	$(x+2y)(x+4y)$	$(x+y)(x+4y)$	$(x+4y)(x+3y)$	$(x+20y)(x+3y)$	$(x-5y)(x-8y)$	$(x-2y)(x-13y)$	$(x-26y)(x-y)$

OBJECTIVE 3–I: To factor trinomials of the form $x^2 + bx + c$, where c is positive.

Did You Hear About...

A	B	C	D
E	F	G	H
I	J	K	L
M	N	O	P ?

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.

(A) $t^2 + 3t - 10$

(B) $t^2 + 4t - 21$

(C) $t^2 + 5t - 6$

(D) $t^2 - 2t - 8$

(E) $t^2 - 10t - 11$

(F) $t^2 + 4t - 12$

(G) $t^2 - 8t - 20$

(H) $t^2 - t - 72$

(I) $x^2 + 3x - 18$

(J) $x^2 - 17x - 18$

(K) $x^2 + 5x - 24$

(L) $x^2 - 10x - 24$

(M) $x^2 + 2xy - 15y^2$

(N) $x^2 - 5xy - 50y^2$

(O) $x^2 - 9xy - 36y^2$

(P) $x^2 + 5xy - 36y^2$

$(t+3)(t-2)$	STARTED
$(t+6)(t-1)$	WHO
$(t+6)(t-2)$	RED
$(t+5)(t-2)$	THE
$(t-9)(t+8)$	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

$(x-18)(x+1)$	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
$(x+6)(x-3)$	IT
$(x-25y)(x+2y)$	LION
$(x-12)(x+2)$	BE
$(x-10y)(x+5y)$	FIRST

 Name_____

Factoring Trinomials

Factor each completely.

1) $3p^2 - 2p - 5$

2) $2n^2 + 3n - 9$

3) $3n^2 - 8n + 4$

4) $5n^2 + 19n + 12$

5) $2v^2 + 11v + 5$

6) $2n^2 + 5n + 2$

7) $7a^2 + 53a + 28$

8) $9k^2 + 66k + 21$

9) $15n^2 - 27n - 6$

10) $5x^2 - 18x + 9$

11) $4n^2 - 15n - 25$

12) $4x^2 - 35x + 49$

13) $4n^2 - 17n + 4$

14) $6x^2 + 7x - 49$

15) $6x^2 + 37x + 6$

16) $-6a^2 - 25a - 25$

17) $6n^2 + 5n - 6$

18) $16b^2 + 60b - 100$

Name ANSWERS

Factoring Trinomials

Factor each completely.

1) $3p^2 - 2p - 5$

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

2) $2n^2 + 3n - 9$

$(2n - 3)(n + 3)$

3) $3n^2 - 8n + 4$

$(3n - 2)(n - 2)$

4) $5n^2 + 19n + 12$

$(5n + 4)(n + 3)$

5) $2v^2 + 11v + 5$

$(2v + 1)(v + 5)$

6) $2n^2 + 5n + 2$

$(2n + 1)(n + 2)$

7) $7a^2 + 53a + 28$

$(7a + 4)(a + 7)$

8) $9k^2 + 66k + 21$

$3(3k + 1)(k + 7)$

9) $15n^2 - 27n - 6$

$3(5n + 1)(n - 2)$

10) $5x^2 - 18x + 9$

$(5x - 3)(x - 3)$

11) $4n^2 - 15n - 25$

$(n - 5)(4n + 5)$

12) $4x^2 - 35x + 49$

$(x - 7)(4x - 7)$

13) $4n^2 - 17n + 4$

$(n - 4)(4n - 1)$

14) $6x^2 + 7x - 49$

$(3x - 7)(2x + 7)$

15) $6x^2 + 37x + 6$

$(x + 6)(6x + 1)$

16) $-6a^2 - 25a - 25$

$-(2a + 5)(3a + 5)$

17) $6n^2 + 5n - 6$

$(2n + 3)(3n - 2)$

18) $16b^2 + 60b - 100$

$4(b + 5)(4b - 5)$