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) $x^2 + 19xy + 60y^2$

Letter	Answer
T	$(x - 26y)(x - y)$
L	$(x - 2y)(x - 13y)$
N	$(x - 5y)(x - 8y)$
A	$(x + 20y)(x + 3y)$
I	$(x + 4y)(x + 3y)$
G	$(x + y)(x + 4y)$
E	$(x + 2y)(x + 4y)$
R	$(x + 4y)(x + 15y)$
O	$(x - 16y)(x - 2y)$
T	$(d + 6)(d + 3)$
A	$(d - 4)(d - 9)$
M	$(d - 5)(d - 4)$
O	$(d - 2)(d - 18)$
E	$(d - 10)(d - 2)$
L	$(d - 5)(d - 3)$
U	$(d + 2)(d + 15)$
N	$(d + 2)(d + 9)$
F	$(d + 1)(d + 13)$
Y	$(m - 2)(m - 8)$
O	$(m + 8)(m + 3)$
T	$(m + 2)(m + 3)$
U	$(m + 3)(m + 4)$
S	$(m + 7)(m + 1)$
A	$(m - 2)(m - 6)$
B	$(m + 8)(m + 1)$
E	$(m + 9)(m + 1)$
G	$(m - 2)(m - 4)$

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

Why Didn't Klutz Do Any Homework on Saturday?

Either multiply or factor, as directed, and find your answer in the adjacent answer column. Write the letter of that exercise in the box that contains the number of the answer.

Multiply:

- (I) $(a + 5)(a - 5)$
- (D) $(2 + 3a)(2 - 3a)$
- (E) $(7a - 1)(7a + 1)$
- (N) $(a^2 - 6)(a^2 + 6)$
- (A) $(4a + b)(4a - b)$
- (O) $(2a^2 - 5b)(2a^2 + 5b)$

- (4) $16a^2 - b^2$
- (13) $49a^2 - 1$
- (6) $a^2 - 25$
- (17) $4a^4 - 25b^2$
- (15) $4 - 9a^2$
- (12) $4a^4 - 36$
- (24) $a^4 - 36$

Factor:

- (S) $x^2 - y^2$
- (I) $4x^2 - 49y^2$
- (W) $81x^2 - 100y^2$
- (E) $36x^2 - 121y^2$
- (O) $9x^2 - 64y^2$
- (N) $x^4 - 400$

- (3) $(9x + 10y)(9x - 10y)$
- (5) $(x + y)(x - y)$
- (7) $(x^2 + 20)(x^2 - 20)$
- (11) $(6x + 11y)(6x - 11y)$
- (16) $(3x + 7y)(3x - 7y)$
- (22) $(2x + 7y)(2x - 7y)$
- (23) $(3x + 8y)(3x - 8y)$

Factor:

- (E) $n^2 - 49$
- (A) $n^2 - 1$
- (N) $81 - n^2$
- (H) $4n^2 - 9$
- (I) $49n^2 - 16$
- (E) $144 - 25n^2$

- (1) $(2n + 3)(2n - 3)$
- (10) $(12 + 5n)(12 - 5n)$
- (8) $(n + 1)(n - 1)$
- (5) $(7n + 3)(7n - 3)$
- (2) $(n + 7)(n - 7)$
- (18) $(9 + n)(9 - n)$
- (20) $(7n + 4)(7n - 4)$

Factor:

- (T) $a^6 - b^4$
- (C) $25a^8 - 9b^4$
- (W) $a^2b^2 - 36$
- (D) $16 - a^4b^6$
- (K) $a^2b^4 - c^8$
- (N) $4a^{16} - 225$

- (19) $(4 + a^2b^3)(4 - a^2b^3)$
- (14) $(2a^8 + 15)(2a^8 - 15)$
- (21) $(a^3 + b^2)(a^3 - b^2)$
- (12) $(ab^2 + c^4)(ab^2 - c^4)$
- (9) $(ab + 6)(ab - 6)$
- (16) $(5a^4 + 3b^2)(5a^4 - 3b^2)$
- (10) $(4 + ab^4)(4 - ab^4)$

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24

OBJECTIVE 3–h: To simplify products of the form $(a + b)(a - b)$; to factor differences of squares.