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) $a^4 - 36$

- (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:

- (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) $x^4 - 400$

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.

What Happens If the Jolly Green Giant Steps on Your House?

For exercises in the first column, express each square as a trinomial. For the remaining exercises, factor each trinomial as the square of a binomial, if possible. (If this is not possible, the correct answer is "not possible.") Find your answer below. Write the letter of the exercise in the box containing the number of its answer.

Express as a trinomial:

(E) $(u + 3)^2$

(O) $(u - 8)^2$

(S) $(2u + 5)^2$

(L) $(1 - 4u)^2$

(T) $(u + 2v)^2$

(U) $(7u - 3v)^2$

(O) $(uv + 6)^2$

Answers:

(13) $4u^2 + 20u + 25$

(3) $4u^2 + 16u + 25$

(9) $u^2 + 6u + 9$

(10) $u^2 + 4uv + 4v^2$

(14) $49u^2 - 31uv + 9v^2$

(6) $1 - 8u + 16u^2$

(2) $u^2 - 16u + 64$

(18) $u^2v^2 + 12uv + 36$

(5) $u^2 + 7uv + 4v^2$

(12) $49u^2 - 42uv + 9v^2$

Factor:

(E) $t^2 + 4t + 4$

(U) $t^2 - 12t + 36$

(L) $t^2 - 18t + 81$

(Y) $25 + 10t + t^2$

(W) $4t^2 + 20t + 25$

(S) $9t^2 - 12t + 4$

(I) $t^2 + 10t + 20$

Answers:

(5) not possible

(7) $(t - 9)^2$

(19) $(t - 12)^2$

(4) $(2t + 5)^2$

(15) $(t + 2)^2$

(21) $(3t - 2)^2$

(16) $(2t - 9)^2$

(3) $(t - 6)^2$

(1) $(5 + t)^2$

(8) $(3t - 5)^2$

Factor:

(D) $49a^2 + 14a + 1$

(O) $16a^2 - 24a + 9$

(G) $a^2 - 8a + 64$

(M) $a^2 + 2ab + b^2$

(H) $a^2 + 10ab + 25b^2$

(R) $4a^2 - 12ab + 9b^2$

(M) $100a^2 - 20ab + b^2$

Answers:

(8) not possible

(11) $(10a - 3b)^2$

(16) $(7a + 1)^2$

(11) $(10a - b)^2$

(20) $(a + b)^2$

(17) $(2a - 3b)^2$

(19) $(4a - 3)^2$

(20) $(a + 3b)^2$

(14) $(a + 5b)^2$

(19) $(4a - 8)^2$

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

© 1989 Creative Publications   OBJECTIVE 3–j: To find squares of binomials; to factor trinomial squares.