



# What Did the Martian Say When He Accidentally Landed on Venus ?

Find the simplest form for each expression in the corresponding answer column. (Some of the expressions cannot be simplified.) Write the letter of the exercise in the box containing the number of your answer.

- (T)  $5x^2 + 2x^2 - 3x^2$
- (N)  $(5x^2)(2x^2)(-3x^2)$
- (S)  $4x^3 + x^2 + 4x$
- (I)  $(4x^3)(x^2)(4x)$
- (L)  $-3x^3 + 5x^2 - 3x^3$
- (A)  $(-3x^3)(5x^2)(-3x^3)$
- (E)  $3x + 2y$
- (T)  $(3x)(2y)$
- (Y)  $7xy^2 - 2xy^2$
- (D)  $(7xy^2)(-2xy^2)$
- (I)  $7x^2y - 2xy^2$
- (A)  $(7x^2y)(-2xy^2)$

- (19)  $5xy^2$
- (1)  $16x^6$
- (11)  $3x + 2y$
- (15)  $7x^2y - 2xy^2$
- (13)  $4x^2$
- (16)  $4x^3 + x^2 + 4x$
- (18)  $45x^8$
- (9)  $-14x^3y^3$
- (5)  $-30x^6$
- (2)  $-14x^2y^4$
- (6)  $6xy$
- (8)  $-6x^3 + 5x^2$

- (I)  $(3a)(a^2)(a^3) + (2a^2)(a^4)$
- (T)  $(a^4)(5a)(a^2) + (-4a^3)(2a^3)(a)$
- (W)  $(2a^3)(a^2)(3a^2) + (8a^2)(-a^2)(a)$
- (D)  $(5a^2)(2ab) + (a^2b)(3a)$
- (H)  $(2ab^2)(-2a^2b^2) - (ab^3)(6a^2b)$
- (N)  $(-a^2b)(ab^2)(a^2b^2) + (a^3b^2)(-a^2b^3)$
- (P)  $(4a^2b^2)(-3b^3) - (2ab^2)(-6ab^3)$

- (10)  $-2a^5b^5$
- (4)  $13a^3b$
- (12)  $-3a^7$
- (7) 0
- (14)  $-10a^3b^4$
- (3)  $5a^6$
- (17)  $6a^7 - 8a^5$

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

# Why Is a Stick of Gum Like a Sneeze?

For each exercise, multiply the two polynomials. Find your answer in the set of answers under the exercise. Cross out the letter above your answer. When you finish, the answer to the title question will remain!

- ①  $(x + 3)(x + 5)$
- ②  $(x + 2)(x + 9)$
- ③  $(x - 8)(x + 1)$
- ④  $(x - 3)(x - 6)$
- ⑤  $(2x + 9)(x - 2)$
- ⑥  $(3x + 1)(2x + 4)$

- ⑦  $(4a - 7)(3a - 2)$
- ⑧  $(2a + 5)(2a - 5)$
- ⑨  $(6a - 1)(2a + 4)$
- ⑩  $(a + 2b)(4a + b)$
- ⑪  $(5a + 3b)(a - 4b)$
- ⑫  $(3a - 8b)(2a - b)$

- ⑬  $(n + 2)(n^2 + 5n - 3)$
- ⑭  $(3n - 1)(2n^2 + 4n + 4)$
- ⑮  $(2n + 3)(6n^2 - 2n + 1)$
- ⑯  $(4n - 5)(n^2 - 7n - 2)$
- ⑰  $(3n - 4)(4n^2 + 2n + 3)$
- ⑱  $(n + 8)(6n^2 - n - 4)$

B	E	S	I	A	U	T	N	T	I	S	E	R	A	N	O	T	C	R	I	H	E	A	N	W	D
$x^2 - 7x - 8$	$x^2 + 8x + 15$	$6x^2 + 14x + 4$	$6x^2 + 7x + 4$	$x^2 - 9x + 18$	$x^2 + 11x + 18$	$x^2 - 13x + 18$	$2x^2 + 5x - 18$	$4a^2 + 9ab + 2b^2$	$6a^2 - 19ab + 8b^2$	$5a^2 - 11ab - 12b^2$	$12a^2 + 22a - 4$	$4a^2 - 25$	$4a^2 + 4ab + 3b^2$	$5a^2 - 17ab - 12b^2$	$12a^2 - 29a + 14$	$6n^3 + 47n^2 - 12n - 32$	$6n^3 + 44n^2 - 9n - 32$	$4n^3 - 33n^2 + 27n + 10$	$6n^3 + 10n^2 + 8n - 4$	$n^3 + 6n^2 + 9n - 6$	$12n^3 - 9n^2 - 2n - 12$	$12n^3 - 10n^2 + n - 12$	$n^3 + 7n^2 + 7n - 6$	$4n^3 - 30n^2 + 21n + 10$	$12n^3 + 14n^2 - 4n + 3$

# Where Do Tadpoles in the Pawn Shop Come From ?

Factor each polynomial below as the product of its greatest monomial factor and another polynomial. Find your answer and notice the letter next to it. Write this letter in each box that contains the number of that exercise.

- ①  $3x^2 + 18x + 9$   
 ②  $2x^2 + 10x + 12$   
 ③  $7x^2 + 14x + 35$   
 ④  $5x^2 - 20x + 10$   
 ⑤  $6x^2 + 9x - 21$

Answers:

- ①  $3(2x^2 + 3x - 7)$   
 ②  $3(2x^2 + 4x - 5)$   
 ③  $3(x^2 + 6x + 3)$   
 ④  $5(x^2 - 2x + 5)$   
 ⑤  $5(x^2 - 4x + 2)$   
 ⑥  $2(x^2 + 5x + 6)$   
 ⑦  $7(x^2 + x + 6)$   
 ⑧  $7(x^2 + 2x + 5)$

- ⑥  $n^3 + n^2 + n$   
 ⑦  $n^4 - n^3 + n^2$   
 ⑧  $2n^3 - n^2 - 5n$   
 ⑨  $3n^2 + 9n$   
 ⑩  $7n^2 - 28n$

Answers:

- ①  $n(2n^2 - 2n - 6)$   
 ②  $n^2(n^2 - n + 1)$   
 ③  $7n(n + 5)$   
 ④  $3n(n + 3)$   
 ⑤  $n^2(n^2 - 2n + 3)$   
 ⑥  $n(n^2 + n + 1)$   
 ⑦  $n(2n^2 - n - 5)$   
 ⑧  $7n(n - 4)$

- ⑪  $4k^3 - 32k$   
 ⑫  $6k^3 + 10k^2$   
 ⑬  $5k^3 + 15k^2 + 10k$   
 ⑭  $4k^3 - 20k^2 + 4$   
 ⑮  $4k^4 + 18k^3 - 6k^2$

Answers:

- ①  $4(k^3 - 5k^2 + 1)$   
 ②  $5k(k^2 + 3k + 2)$   
 ③  $4(k^3 - 8k^2 + 2)$   
 ④  $4k(k^2 - 8)$   
 ⑤  $5k(k^2 + 4k + 1)$   
 ⑥  $2k^2(2k^2 + 9k - 3)$   
 ⑦  $2k^2(3k - 9)$   
 ⑧  $2k^2(3k + 5)$

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