

DOUBLE CROSS

1. What do you get when you cross a chicken with a centipede?

5 8 11 14 12 2 14 1 10 13 11 6 7 4 13

2. What do you get when you cross a mink with an octopus?

12 7 3 12 11 3 9 12 14 10 13

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. Each time the exercise number appears in the code, write this letter above it. Keep working and you will find out what you get from these "double crosses."

- ① $6x^2 + 9x + 27$
- ② $5x^3 + 30x^2 - 15x$
- ③ $14x^3 - 7x^2 - 35x$
- ④ $25x^3 - 40x^2 + 10x$
- ⑤ $4x^4 + 20x^3 + 12x^2$
- ⑥ $3x^4 + 12x^2 - 33$
- ⑦ $49x^4 - 14x^3 - 28x$

Answers:

- Ⓔ $4x^2(x^2 + 5x + 3)$
- Ⓕ $3(x^4 + 6x^2 + 11)$
- Ⓞ $7x(2x^2 - x - 5)$
- Ⓤ $3(2x^2 + 3x + 9)$
- Ⓒ $7x(7x^3 - 2x^2 - 4)$
- Ⓚ $5x(5x^2 - 8x + 2)$
- Ⓑ $7x(7x^3 + 2x^2 - 3)$
- Ⓓ $5x(x^2 + 6x - 3)$
- Ⓘ $3(x^4 + 4x^2 - 11)$

- ⑧ $2a^2 + 12ab + 6b^2$
- ⑨ $6a^3 - 18ab$
- ⑩ $3a^2b^2 + 15ab^3$
- ⑪ $8a^4b^4 - 28a^3b^3 + 4a^2b^2$
- ⑫ $6a^4b - 10a^3b^2 - 6a^2b^3$
- ⑬ $7ab^5 - 56ab$
- ⑭ $24ab^4 + 12ab^3 - 18ab^2$

Answers:

- ⒣ $6ab^2(4b^2 - 3b - 2)$
- ⓧ $2(a^2 + 6ab + 3b^2)$
- Ⓢ $7ab(b^4 - 8)$
- Ⓜ $3ab^2(a + 5b)$
- Ⓡ $6ab^2(4b^2 + 2b - 3)$
- Ⓝ $4a^2b^2(2a^2b^2 - 9ab + 2)$
- Ⓐ $2a^2b(3a^2 - 5ab - 3b^2)$
- Ⓕ $6a(a^2 - 3b)$
- Ⓣ $4a^2b^2(2a^2b^2 - 7ab + 1)$

How Did Snidely Spellbinder Write a Four-Letter Word That Begins and Ends With "E"?



Write each expression below in factored form. Find your answer in the set of answers under the exercise and cross out the box above it. When you finish, the answer to the title question will remain.

- ① $x^2 + 3x + xk + 3k$
- ② $a^2 - 2a + ad - 2d$
- ③ $uv + 5u + v^2 + 5v$
- ④ $x^2 - xk + 4x - 4k$
- ⑤ $ad + 3a - d^2 - 3d$
- ⑥ $y^3 + y^2 + 2y + 2$

- ⑦ $m^3 + m^2n + mn^2 + n^3$
- ⑧ $u^3 - u^2v + uv^2 - v^3$
- ⑨ $t^2 + 2t + 3kt + 6k$
- ⑩ $2ab + 14a + b + 7$
- ⑪ $m^2 + mn - 3m - 3n$
- ⑫ $5x^2y - x^2 + 5y - 1$

B	(a - d)(d + 3)	W	(u + 2)(v + 5)	E	(x + 4)(x - k)	A	(a + d)(a - 2)	I	(2y^2 + 1)(y + 1)	N	(x + k)(x + 3)	T	(a - d)(d - 2)	R	(y^2 + 2)(y + 1)	H	(x + k)(4x + 3)	4	(u + v)(v + 5)
L	(u^2 + v^2)(u - v)	G	(x^2 + 1)(5y - 1)	E	(7a + 2)(b + 7)	T	(t + 3k)(t + 2)	I	(m^2 + n^2)(m + n)	A	(3t - k)(t + 2)	S	(m^2 - 2)(m + n)	P	(2a + 1)(b + 7)	E	(2x + 5)(5y - 1)	N	(m - 3)(m + n)