

# Why is an Idea Like the Pacific?

For each exercise below, add the polynomials. Find your answer at the bottom of the page and write the letter of that exercise above it.

OBJECTIVE 1-c: To add polynomials.

- (T)  $6x + 9$
- (I)  $3x - 4$
- (O)  $8x^2 + 2x + 1$
- (S)  $-5x^2 - 5x + 3$

$$\frac{x-1}{7x+8}$$

$$\frac{5x-7}{8x-11}$$

$$\frac{x^2-4x+7}{9x^2-2x+8}$$

$$\frac{6x^2-x}{x^2-6x+3}$$

- (N)  $(7x^2 + 3x + 9) + (2x^2 + 5x - 2) = 9x^2 + 8x + 7$
- (S)  $(2x^4 + 5x^2 - 11) + (-6x^4 - 7x^2 + 1) = -4x^4 - 2x^2 - 10$
- (U)  $(-3x^2 + x - 7) + (8x^2 - 4x - 4) = 5x^2 - 3x - 11$
- (N)  $(-4x^4 + 3x^3 - 7x^2 - x) + (-9x^3 + 7x^2 - 5x - 1) = -4x^4 - 6x^3 - 4x^2 - 6x - 1$
- (I)  $(6x^3 + 2x^2 - 3x) + (3x^3 - 10x^2 - x) = 9x^3 - 8x^2 - 4x$
- (J)  $(4x^2 + 3xy - y^2) + (x^2 - 8xy - 2y^2) = 5x^2 - 5xy - 3y^2$
- (T)  $(-4x^3 + 6x + 1) + (5x^2 - x - 12) = -4x^3 + 5x^2 + 5x - 11$
- (A)  $(2x^2y - xy^2) + (6x^2y + 7xy^2) = 8x^2y + 6xy^2$
- (O)  $(9x^3 - x^2 + 8) + (-9x^3 + 2x^2 + 3x) = x^2 + 3x + 8$
- (T)  $(x^3y + 3x^2y^2 + 2xy^3) + (2x^3y - 9x^2y^2 - xy^3) = 3x^3y - 6x^2y^2 + xy^3$

I	T	S		S	U	S	T		A		N	O	T	I	O	N
$8x - 11$	$-4x^3 + 5x^2 + 5x - 11$	$x^2 - 6x + 3$	$8x^2y - 3xy^2$	$5x^2 - 5xy - 3y^2$	$5x^2 - 3x - 11$	$-4x^4 - 2x^2 - 10$	$7x + 8$	$-4x^3 + 5x^2 - 3x - 1$	$8x^2y + 6xy^2$	$5x^2 - 5xy - 11$	$9x^2 + 8x + 7$	$x^2 + 3x + 8$	$3x^3y - 6x^2y^2 + xy^3$	$9x^3 - 8x^2 - 4x$	$9x^2 - 2x + 8$	$-4x^4 - 6x^3 - 6x - 1$

# Daffynition Decoder

- Romantic: 

A	N	I	T	A	L	I	A	N	I	N	S	E	C	T
11	13	8	12	11	1	8	11	13	8	13	10	3	5	12
- American: 

A	H	A	P	P	Y	C	O	N	T	A	I	N	E	R
11	2	11	9	9	6	5	7	13	12	11	8	13	3	4

For each exercise below, subtract the second polynomial from the first. Find your answer in the answer column 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 decode the "de-fun-tions."

- $(7x + 4) - (2x + 9) = 5x - 5$
- $(3x + 12) - (5x - 6) = -2x + 18$
- $(-4x^2 + 10) - (6x^2 - 9) = -10x^2 + 19$
- $(2x^2 + 3x + 8) - (x^2 + 5x - 1) = x^2 - 2x + 9$
- $(-x^2 + 9x - 2) - (9x^2 - 4x + 4) = -10x^2 + 13x - 6$
- $(3x^2 + 7x + 1) - (8 + 5x + x^2) = 2x^2 + 2x - 7$
- $(4x^3 + 6x^2 - 8x) - (x^3 - 2x^2 + 12x) = 3x^3 + 8x^2 - 20x$
- $(x^3 + 2x^2 + 5x) - (3x^2 - x + 7) = x^3 - x^2 + 6x + 7$
- $(x^4 + 8x^2 - 1) - (x^2 + 3x^3 + x^4) = 3x^3 + 7x^2 - 1$
- $(5x^4 - 2x^2) - (3x + 2x^2 + 4x^3 + 6x^4) = -1x^4 + 4x^3 - 3x$
- $(3x^2 + 7xy - 2y^2) - (x^2 - 6xy + 2y^2) = 2x^2 + 13xy - 4y^2$
- $(-x^2 - 9xy + 5y^2) - (4x^2 - 2xy - y^2) = -5x^2 - 9xy + 6y^2$
- $(4x^2y - 3xy^2) - (3x^2y - 8xy^2) = x^2y + 5xy^2$



- Answers:
- (M)  $-x^4 + 4x^3 - 7x^2$
  - (S)  $-x^4 + 4x^3 - 3x$
  - (U)  $3x^3 + 5x^2 + 7$
  - (L)  $5x - 5$
  - (E)  $-10x^2 + 19$
  - (F)  $2x^2 + 2x - 19$
  - (C)  $-10x^2 + 13x - 6$
  - (H)  $-2x + 18$
  - (T)  $-5x^2 - 7xy + 6y^2$
  - (O)  $3x^3 + 8x^2 - 20x$
  - (P)  $3x^3 + 7x^2 - 1$
  - (R)  $x^2 - 2x + 9$
  - (A)  $2x^2 + 13xy - 4y^2$
  - (N)  $x^2y + 5xy^2$
  - (Y)  $2x^2 + 2x - 7$
  - (B)  $-5x^2 - 6xy + 7y^2$
  - (I)  $x^3 - x^2 + 6x + 7$