

# Subtraction of Binomials Solved Examples

## Example 1

**Subtract:**  $(13x - 4) - (17x - 3)$

Given binomials are:

First Binomial =  $(13x - 4)$

Second Binomial =  $(17x - 3)$

Form subtraction expression:

$$(13x - 4) - (17x - 3)$$

Open brackets and change signs of second binomial:

$$13x - 4 - 17x + 3$$

Arrange like terms together:

$$13x - 17x - 4 + 3$$

Subtract like terms and simplify:

$$-4x - 1$$

**Hence,**  $(13x - 4) - (17x - 3) = -4x - 1$

## Example 2

**Subtract:**  $(19b + 9) - (30b + 13)$

Given binomials are:

First Binomial =  $(19b + 9)$

Second Binomial =  $(30b + 13)$

Form subtraction expression:

$$(19b + 9) - (30b + 13)$$

Open brackets and change signs of second binomial:

$$19b + 9 - 30b - 13$$

Arrange like terms together:

$$19b - 30b + 9 - 13$$

Subtract like terms and simplify:

$$-11b - 4$$

**Hence,**  $(19b + 9) - (30b + 13) = -11b - 4$

### Example 3

**Subtract:**  $(28a + 2) - (28a + 8)$

Given binomials are:

First Binomial =  $(28a + 2)$

Second Binomial =  $(28a + 8)$

Form subtraction expression:

$$(28a + 2) - (28a + 8)$$

Open brackets and change signs of second binomial:

$$28a + 2 - 28a - 8$$

Arrange like terms together:

$$28a - 28a + 2 - 8$$

Subtract like terms and simplify:

$$0a - 6$$

**Hence,**  $(28a + 2) - (28a + 8) = 0a - 6$

### Example 4

**Subtract:**  $(25a - 4) - (21x + 1)$

Given binomials are:

$$\text{First Binomial} = (25a - 4)$$

$$\text{Second Binomial} = (21x + 1)$$

Form subtraction expression:

$$(25a - 4) - (21x + 1)$$

Open brackets and change signs of second binomial:

$$25a - 4 - 21x - 1$$

Arrange like terms together:

$$25a - 21x - 4 - 1$$

Subtract like terms and simplify:

$$25a - 21x - 5$$

**Hence,**  $(25a - 4) - (21x + 1) = 25a - 21x - 5$

## Example 5

**Subtract:**  $(21y + 9) - (12x + 12)$

Given binomials are:

$$\text{First Binomial} = (21y + 9)$$

$$\text{Second Binomial} = (12x + 12)$$

Form subtraction expression:

$$(21y + 9) - (12x + 12)$$

Open brackets and change signs of second binomial:

$$21y + 9 - 12x - 12$$

Arrange like terms together:

$$21y - 12x + 9 - 12$$

Subtract like terms and simplify:

$$21y - 12x - 3$$

**Hence,**  $(21y + 9) - (12x + 12) = 21y - 12x - 3$

## Example 6

**Subtract:**  $(18b + 4) - (8y - 13)$

Given binomials are:

First Binomial =  $(18b + 4)$

Second Binomial =  $(8y - 13)$

Form subtraction expression:

$$(18b + 4) - (8y - 13)$$

Open brackets and change signs of second binomial:

$$18b + 4 - 8y + 13$$

Arrange like terms together:

$$18b - 8y + 4 + 13$$

Subtract like terms and simplify:

$$18b - 8y + 17$$

**Hence,**  $(18b + 4) - (8y - 13) = 18b - 8y + 17$

## Example 7

**Subtract:**  $(16x - 5) - (14b + 8)$

Given binomials are:

First Binomial =  $(16x - 5)$

Second Binomial =  $(14b + 8)$

Form subtraction expression:

$$(16x - 5) - (14b + 8)$$

Open brackets and change signs of second binomial:

$$16x - 5 - 14b - 8$$

Arrange like terms together:

$$16x - 14b - 5 - 8$$

Subtract like terms and simplify:

$$16x - 14b - 13$$

**Hence,**  $(16x - 5) - (14b + 8) = 16x - 14b - 13$

## Example 8

**Subtract:**  $(24m + 13) - (22y - 15)$

Given binomials are:

First Binomial =  $(24m + 13)$

Second Binomial =  $(22y - 15)$

Form subtraction expression:

$$(24m + 13) - (22y - 15)$$

Open brackets and change signs of second binomial:

$$24m + 13 - 22y + 15$$

Arrange like terms together:

$$24m - 22y + 13 + 15$$

Subtract like terms and simplify:

$$24m - 22y + 28$$

**Hence,**  $(24m + 13) - (22y - 15) = 24m - 22y + 28$

## Example 9

**Subtract:**  $(19y + 13) - (24y + 7)$

Given binomials are:

First Binomial =  $(19y + 13)$

Second Binomial =  $(24y + 7)$

Form subtraction expression:

$$(19y + 13) - (24y + 7)$$

Open brackets and change signs of second binomial:

$$19y + 13 - 24y - 7$$

Arrange like terms together:

$$19y - 24y + 13 - 7$$

Subtract like terms and simplify:

$$-5y + 6$$

**Hence,**  $(19y + 13) - (24y + 7) = -5y + 6$

## Example 10

**Subtract:**  $(9y - 9) - (7y + 6)$

Given binomials are:

First Binomial =  $(9y - 9)$

Second Binomial =  $(7y + 6)$

Form subtraction expression:

$$(9y - 9) - (7y + 6)$$

Open brackets and change signs of second binomial:

$$9y - 9 - 7y - 6$$

Arrange like terms together:

$$9y - 7y - 9 - 6$$

Subtract like terms and simplify:

$$2y - 15$$

**Hence,**  $(9y - 9) - (7y + 6) = 2y - 15$

## Example 11

**Subtract:**  $(7y - 6) - (9b + 7)$

Given binomials are:

First Binomial =  $(7y - 6)$

Second Binomial =  $(9b + 7)$

Form subtraction expression:

$$(7y - 6) - (9b + 7)$$

Open brackets and change signs of second binomial:

$$7y - 6 - 9b - 7$$

Arrange like terms together:

$$7y - 9b - 6 - 7$$

Subtract like terms and simplify:

$$7y - 9b - 13$$

**Hence,**  $(7y - 6) - (9b + 7) = 7y - 9b - 13$

## Example 12

**Subtract:**  $(12a + 11) - (27x + 2)$

Given binomials are:

First Binomial =  $(12a + 11)$

Second Binomial =  $(27x + 2)$

Form subtraction expression:

$$(12a + 11) - (27x + 2)$$

Open brackets and change signs of second binomial:

$$12a + 11 - 27x - 2$$

Arrange like terms together:

$$12a - 27x + 11 - 2$$

Subtract like terms and simplify:

$$12a - 27x + 9$$

**Hence,**  $(12a + 11) - (27x + 2) = 12a - 27x + 9$

## Example 13

**Subtract:**  $(16y - 10) - (14a - 2)$

Given binomials are:

First Binomial =  $(16y - 10)$

Second Binomial =  $(14a - 2)$

Form subtraction expression:

$$(16y - 10) - (14a - 2)$$

Open brackets and change signs of second binomial:

$$16y - 10 - 14a + 2$$

Arrange like terms together:

$$16y - 14a - 10 + 2$$

Subtract like terms and simplify:

$$16y - 14a - 8$$

**Hence,**  $(16y - 10) - (14a - 2) = 16y - 14a - 8$

## Example 14

**Subtract:**  $(14b - 12) - (29a - 11)$

Given binomials are:

First Binomial =  $(14b - 12)$

Second Binomial =  $(29a - 11)$

Form subtraction expression:

$$(14b - 12) - (29a - 11)$$

Open brackets and change signs of second binomial:

$$14b - 12 - 29a + 11$$

Arrange like terms together:

$$14b - 29a - 12 + 11$$

Subtract like terms and simplify:

$$14b - 29a - 1$$

**Hence,**  $(14b - 12) - (29a - 11) = 14b - 29a - 1$

## Example 15

**Subtract:**  $(30x + 4) - (19x + 6)$

Given binomials are:

First Binomial =  $(30x + 4)$

Second Binomial =  $(19x + 6)$

Form subtraction expression:

$$(30x + 4) - (19x + 6)$$

Open brackets and change signs of second binomial:

$$30x + 4 - 19x - 6$$

Arrange like terms together:

$$30x - 19x + 4 - 6$$

Subtract like terms and simplify:

$$11x - 2$$

**Hence,**  $(30x + 4) - (19x + 6) = 11x - 2$

## Example 16

**Subtract:**  $(19b + 7) - (5b - 11)$

Given binomials are:

First Binomial =  $(19b + 7)$

Second Binomial =  $(5b - 11)$

Form subtraction expression:

$$(19b + 7) - (5b - 11)$$

Open brackets and change signs of second binomial:

$$19b + 7 - 5b + 11$$

Arrange like terms together:

$$19b - 5b + 7 + 11$$

Subtract like terms and simplify:

$$14b + 18$$

**Hence,**  $(19b + 7) - (5b - 11) = 14b + 18$

## Example 17

**Subtract:**  $(6b - 3) - (20b + 3)$

Given binomials are:

First Binomial =  $(6b - 3)$

Second Binomial =  $(20b + 3)$

Form subtraction expression:

$$(6b - 3) - (20b + 3)$$

Open brackets and change signs of second binomial:

$$6b - 3 - 20b - 3$$

Arrange like terms together:

$$6b - 20b - 3 - 3$$

Subtract like terms and simplify:

$$-14b - 6$$

**Hence,**  $(6b - 3) - (20b + 3) = -14b - 6$

## Example 18

**Subtract:**  $(16x - 10) - (16b + 12)$

Given binomials are:

First Binomial =  $(16x - 10)$

Second Binomial =  $(16b + 12)$

Form subtraction expression:

$$(16x - 10) - (16b + 12)$$

Open brackets and change signs of second binomial:

$$16x - 10 - 16b - 12$$

Arrange like terms together:

$$16x - 16b - 10 - 12$$

Subtract like terms and simplify:

$$16x - 16b - 22$$

**Hence,**  $(16x - 10) - (16b + 12) = 16x - 16b - 22$

## Example 19

**Subtract:**  $(15a - 12) - (7a - 14)$

Given binomials are:

First Binomial =  $(15a - 12)$

Second Binomial =  $(7a - 14)$

Form subtraction expression:

$$(15a - 12) - (7a - 14)$$

Open brackets and change signs of second binomial:

$$15a - 12 - 7a + 14$$

Arrange like terms together:

$$15a - 7a - 12 + 14$$

Subtract like terms and simplify:

$$8a + 2$$

**Hence,**  $(15a - 12) - (7a - 14) = 8a + 2$

## Example 20

**Subtract:**  $(14b - 11) - (6b + 2)$

Given binomials are:

First Binomial =  $(14b - 11)$

Second Binomial =  $(6b + 2)$

Form subtraction expression:

$$(14b - 11) - (6b + 2)$$

Open brackets and change signs of second binomial:

$$14b - 11 - 6b - 2$$

Arrange like terms together:

$$14b - 6b - 11 - 2$$

Subtract like terms and simplify:

$$8b - 13$$

**Hence,**  $(14b - 11) - (6b + 2) = 8b - 13$