

# Combining Like Terms

MrB4math.com

## (Simplify Expressions & Vocabulary for Expressions)

1)  $3x + 9y + 7x - 4y + 2$   
 ~~$3x$~~   ~~$9y$~~   ~~$7x$~~   ~~$-4y$~~   
 $10x + 5y + 2$

2)  $7x^2 + 6 - 3x^2 - 4$   
 ~~$7x^2$~~   ~~$6$~~   ~~$-3x^2$~~   ~~$-4$~~   
 $4x^2 + 2$

3)  $-8y + 6x - \cancel{y} - 7x$   
 ~~$-8y$~~   ~~$6x$~~   ~~$\cancel{y}$~~   ~~$-7x$~~   
 $-9y - 1x$   
 or  
 $-9y - x$

4)  $x^2 + 4 - 8x - 8x^2 + 3$   
 ~~$x^2$~~   ~~$4$~~   ~~$-8x$~~   ~~$-8x^2$~~   ~~$3$~~   
 $-7x^2 - 8x + 7$

5)  $-7b^2 - 5b + 3 - 8b^2 + 5b - 4$   
 ~~$-7b^2$~~   ~~$-5b$~~   ~~$3$~~   ~~$-8b^2$~~   ~~$+5b$~~   ~~$-4$~~   
 $-15b^2 + 0b - 1$   
 zero  
 $-15b^2 - 1$

6)  $4x^3 - 5x^2 + 2y^3 + 6x^3 - \cancel{x^2}$   
 ~~$4x^3$~~   ~~$-5x^2$~~   ~~$2y^3$~~   ~~$6x^3$~~   ~~$\cancel{x^2}$~~   
 $10x^3 - 6x^2 + 2y^3$   
 exponents in descending order  
 $10x^3 + 2y^3 - 6x^2$

7)  $5c^2 + 8d + 4c - 12c^2 - 8d$   
 ~~$5c^2$~~   ~~$8d$~~   ~~$4c$~~   ~~$-12c^2$~~   ~~$-8d$~~   
 $-7c^2 + 0d + 4c$   
 zero  
 $-7c^2 + 4c$

8)  $-\cancel{x} - 4x + 2y^3 + 7 - 2y^3 - 4$   
 ~~$-\cancel{x}$~~   ~~$-4x$~~   ~~$2y^3$~~   ~~$7$~~   ~~$-2y^3$~~   ~~$-4$~~   
 $-5x + 0y^3 + 3$   
 zero  
 $-5x + 3$

9)  $3x + 4(2x - 7) + 2$   
 ~~$3x$~~   ~~$4(2x - 7)$~~   ~~$2$~~   
 $3x + 8x - 28 + 2$   
 $11x - 26$

10)  $5y - 6(3x - 7 + 2x) - 4x + y$   
 ~~$5y$~~   ~~$6(3x - 7)$~~   ~~$-4x$~~   ~~$+y$~~   
 $5y - 30x + 42 - 4x + \cancel{y}$   
 $6y - 34x + 42$

11)  $a^2 - 3b - \cancel{(7a^2 - 4)} + 3b + 5$   
 ~~$a^2$~~   ~~$-3b$~~   ~~$\cancel{7a^2 - 4}$~~   ~~$+3b$~~   ~~$+5$~~   
 $-6a^2 + 0b + 9$   
 zero  
 $-6a^2 + 9$

12)  $6m + 2m^3 - \cancel{10(3m + 4)} - 2m^3$   
 ~~$6m$~~   ~~$2m^3$~~   ~~$\cancel{10(3m + 4)}$~~   ~~$-2m^3$~~   
 $-24m + 0m^3 - 40$   
 zero  
 $-24m - 40$