

Simplify by combining like terms

1. $2x - 4 + 3x - 10 + 7$	2. $-6x^2 - 8x + 1 - x - 2x^2 + 5$	3. $-3y + y^2 - 5y - y^2 + 6y$
4. $st - s^2 + t^2 + 5s^2 + 4st$	5. $2x + 3x^2 - 1 + x + 7 + x^2$	6. $9 + 4a - 7b + 3 - 2 - 2b + a$
7. $-7x + 5 - x^2 + 10x + 5x^2$	8. $-4 + 2a + 2b - 5a + 9b + 5$	9. $-2x - 1 + -3x - 4x^2 + 7$
10. $-y^2 + -9 - 5y + 3y + 9y^2 + 7$	11. $8 - 2 + 6a^2 - 3a + 4 - 8a^2$	12. $-3x^2 + 5x - 5x^2 + 3 + 9x^2 + 7x$
13. $ab^2 + ab + 5a^2b + 3ab + 9ab^2 + 7a^2b$	14. $2x + 3y + 5z - y - z - x$	15. $x^3 + x^4 + 8x^5 + 12x^3 - 7x^4$

Write an equation for each situation. First define the variable and then write and solve the equation.

1. Three brothers have a total age of 46 years. The second brother is twice as old as the first. The third is 2 years younger than the first. Find their ages.
2. Two friends went fishing. Bryce caught one more than three times as many fish as Carissa. Together they caught 41 fish. How many fish did each catch?
3. Tim played the "Guess My Number" game at the school carnival. He was told that if you take away three from the number and then double it you get 46. Find the number.
4. The perimeter of a **triangle** is 53 feet. The second side is twice as long as the first, and the third side is 3 feet less than the first. Find the length of each side.