

Balancing Equations 3

Q. What do I do if I have my variable on both sides of the equation?

Ex. $y + x = 2x + 3$ (solve for y)

Ans. Leave y positive and move everything else to the other side. Combine like terms if possible.

$$y + x = 2x + 3$$

$$\begin{array}{r} -x \quad -x \\ y = x + 3 \end{array}$$

Q. What are like and unlike terms?

Ans. X, 2x, -5x, etc. are like terms. All constants (3, 20, -7, etc.) are like terms but x and x^2 are unlike terms and x and 5 are unlike terms.

So solve:

$$y - 2x^2 + 5 = x + 9$$

$$\begin{array}{r} + 2x^2 - 5 \quad + 2x^2 - 5 \\ y = 2x^2 + x + 4 \end{array}$$

$$y = 2x^2 + x + 4$$

Exercises: solve for y.

1.) $y + 5x + 5 = 2x^2 + 3$

2.) $6x^2 + 3x + y = 2$

3.) $y - 5x + 3 = 2x - 4$

4.) $x + y + z = 2xz$

5.) $4z - x^3 = y - 3t$

6.) $2y - 3b = acd$

7.) $4\beta + 3\Delta\theta = 2 - y$

8.) $\kappa\lambda\mu + r^2d^2 = x - y$

9.) $3y + 5z + 2x = -3$

10.) $4t^2 - 5z - y + 3 = \pi$