

Rearranging Formulas and Solving for X

Rearranging formulas and solving for a variable is an essential skill in mathematics and science. In this worksheet, you will practice rearranging formulas and solving for the variable "x" at three different levels of difficulty. Follow the instructions for each task and rearrange the formulas to isolate "x". Solve for "x" and write your answers in the spaces provided. Let's dive in!

Beginner	Intermediate	Advanced
$2x + 5 = 15$ $2x = 15 - 5$ $2x = 10$ $x = 10 / 2$ $x = 5$	$(2x + 5)/(3x - 1) = 2$ $2x + 5 = 2 \times (3x - 1)$ $2x + 5 = 6x - 2$ $2x - 6x = -2 - 5$ $-4x = -7$ $x = \frac{-7}{-4}$ $x = 1.75$	$(4x + 2)/(x - 1) = 3$ $4x + 2 = 3 \times (x - 1)$ $4x + 2 = 3x - 3$ $4x - 3x = -3 - 2$ $x = -5$
$3(x + 4) = 27$ $3x + 12 = 27$ $3x = 27 - 12$ $3x = 15$ $x = 15 / 3$ $x = 5$	$(x/2) + 3 = 9$ $\frac{x}{2} = 9 - 3$ $\frac{x}{2} = 6$ $x = 6 \times 2$ $x = 12$	$2^2 + 3x - 5 = 0$ $4 + 3x - 5 = 0$ $3x - 1 = 0$ $3x = 1$ $x = 1/3$ $x = 0.33$
$2x/3 + 7 = 11$ $\frac{2x}{3} = 11 - 7$ $\frac{2x}{3} = 4$ $2x = 4 \times 3$ $2x = 12$ $x = 12 / 2$ $x = 6$	$2(3x - 1) = 4x + 6$ $2 \times 3x + 2 \times (-1) = 4x + 6$ $6x - 2 = 4x + 6$ $6x - 4x = 6 + 2$ $2x = 8$ $x = 8 / 2$ $x = 4$	$(2x - 1)/(3x + 4) = 2$ $2x - 1 = 2 \times (3x + 4)$ $2x - 1 = 6x + 8$ $2x - 6x = 8 + 1$ $-4x = 9$ $x = 9 / -4$ $x = -2.25$
$4x - 9 = 7x + 3$ $4x - 7x = 3 + 9$ $-3x = 12$ $x = 12 / -3$ $x = -4$	$2^2 + 3x - 4 = 0$ $4 + 3x - 4 = 0$ $3x = 0$ $x = 0 / 3$ $x = 0$	$\sqrt{(3x + 5)} - 2 = 7$ $\sqrt{(3x + 5)} = 7 + 2$ $\sqrt{(3x + 5)} = 9$ $3x + 5 = 9^2$ $3x + 5 = 81$ $3x = 81 - 5$ $3x = 76$ $x = 76 / 3$ $x = 25.33$