

Rearranging Formulas.

Instructions:

Rearranging formulas and solving for a variable is a fundamental skill in mathematics and science. In this worksheet, you will practice rearranging formulas and solving for the variable "x". 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 get started!

Task 1:

Rearrange the formula to solve for "x".

Formula: $2x + 5 = 15$

Rearranged formula: $2x = 15 - 5$

Solution for x: $x = \frac{10}{2}$ $x = 5$

Task 2:

Rearrange the formula to solve for "x".

Formula: $3(x + 4) = 27$

Rearranged formula: $3x + 3 \times 4 = 27$

$$3x = 27 - 12$$

$$3x = 15$$

Solution for x: $x = \frac{15}{3}$ $x = 5$

Task 3:

Rearrange the formula to solve for "x".

Formula: $\frac{2x}{3} + 7 = 11$

Rearranged formula: $\frac{2x}{3} = 11 - 7$

$$\frac{2x}{3} = 4$$

$$2x = 4 \times 3$$

Solution for x: $x = \frac{12}{2}$ $x = 6$

Task 4:

Rearrange the formula to solve for "x".

Formula: $4x - 9 = 7x + 3$

Rearranged formula: $4x - 7x = 9 + 3$

$$-3x = 12$$

Solution for x: $x = \frac{12}{-3}$ $x = -4$

Task 5:

Rearrange the formula to solve for "x".

Formula: $\frac{(2x + 5)}{(3x - 1)} = 2$

Rearranged formula: $(2x + 5) = 2x(3x - 1)$

$$2x + 5 = 3x \times 2 - 1 \times 2$$

$$2x + 5 = 6x - 2$$

$$2x - 6x = -2 - 5$$

$$-4x = -7$$

Solution for x: $x = \frac{-7}{-4}$ $x = 1.75$

Task 6:

Rearrange the formula to solve for "x".

Formula: $4(2x - 3) = 5$

Rearranged formula: $(4 \times 2x) + 4 \times (-3) = 5$

$$8x - 12 = 5$$

$$8x = 5 + 12$$

$$8x = 17$$

Solution for x: $x = \frac{17}{8}$ $x = 2.125$

Task 7:

Rearrange the formula to solve for "x".

Formula: $\frac{x}{2} + 3 = 9$

Rearranged formula: $\frac{x}{2} = 9 - 3$

$$\frac{x}{2} = 6$$

Solution for x: $x = 6 \times 2$ $x = 12$

Task 8:

Rearrange the formula to solve for "x".

Formula: $2(3x - 1) = 4x + 6$

Rearranged formula: $2 \times 3x + 2 \times (-1) = 4x + 6$

$$6x - 2 = 4x + 6$$

$$6x - 4x = 6 + 2$$

$$2x = 8$$

Solution for x: $x = \frac{8}{2}$ $x = 4$

Task 9:

Rearrange the formula to solve for "x".

Formula: $\frac{4x+2}{x-1} = 3$

Rearranged formula: $4x + 2 = 3 \times (x-1)$

$$4x + 2 = 3x - 3$$

$$4x - 3x = -3 - 2$$

Solution for x: $x = -5$

Task 10:

Rearrange the formula to solve for "x".

Formula: $2^2 + 3x - 5 = 0$

Rearranged formula: $4 + 3x - 5 = 0$

$$3x - 1 = 0$$

$$3x = 1$$

Solution for x: $x = \frac{1}{3}$ $x = 0.33$