

TRANSLATING ENGLISH INTO ALGEBRA

+	<i>a</i> plus <i>b</i> the sum of <i>a</i> and <i>b</i> <i>a</i> and <i>b</i> are added <i>b</i> is added to <i>a</i> <i>a</i> is increased by <i>b</i> <i>b</i> more than <i>a</i>	$a + b$
-	<i>a</i> minus <i>b</i> the difference between <i>a</i> and <i>b</i> <i>b</i> subtracted from <i>a</i> <i>a</i> decreased by <i>b</i> <i>a</i> diminished by <i>b</i> <i>b</i> less than <i>a</i> <i>a</i> reduced by <i>b</i>	$a - b$
×	<i>a</i> times <i>b</i> the product of <i>a</i> and <i>b</i> <i>b</i> multiplied by <i>a</i>	$a \times b, a \cdot b, ab, (a)(b)$
÷	<i>a</i> divided by <i>b</i> the quotient of <i>a</i> and <i>b</i>	$a \div b, \frac{a}{b}$

Examples

1) $\overbrace{\quad}^3 \overbrace{\quad}^{\cdot} \overbrace{\quad}^x \overbrace{=}^{\quad} \overbrace{21}^{\quad}$. Find the number.

$$\begin{array}{r} 3x = 21 \\ \underline{3} \quad \underline{3} \\ x = 7 \end{array}$$

2) $\overbrace{\quad}^x \overbrace{+}^{\quad} \overbrace{12}^{\quad} \overbrace{=}^{\quad} \overbrace{17}^{\quad}$. Find the number.

$$\begin{array}{r} x + 12 = 17 \\ \underline{-12} \quad \underline{-12} \\ x = 5 \end{array}$$

3) $\overbrace{\quad}^x \overbrace{-}^{\quad} \overbrace{4}^{\quad} \overbrace{=}^{\quad} \overbrace{5}^{\quad}$. Find the number.

$$\begin{array}{r} x - 4 = 5 \\ \underline{+4} \quad \underline{+4} \\ x = 9 \end{array}$$

4) $\overbrace{\quad\quad\quad}^{x-2} \overset{=}{\underset{=}{\quad\quad\quad}} \overset{20}{\quad\quad\quad}$. Find the number.

$$\begin{array}{r} x - 2 = 20 \\ +2 \quad +2 \\ \hline x = 22 \end{array}$$

5) $\overbrace{\quad\quad\quad}^x \overbrace{\quad\quad\quad}^{\div} \overset{2}{\quad\quad\quad} \overset{=}{\underset{=}{\quad\quad\quad}} \overset{10}{\quad\quad\quad}$. Find the number.

$$\begin{array}{r} \frac{x}{2} = 10 \\ \frac{x}{2} = \frac{10}{1} \\ \hline x = 20 \end{array}$$

6) $\overbrace{\quad\quad\quad}^{2x-1} \overset{=}{\underset{=}{\quad\quad\quad}} \overset{59}{\quad\quad\quad}$. Find the number.

$$\begin{array}{r} 2x - 1 = 59 \\ +1 \quad +1 \\ \hline 2x = 60 \\ \div 2 \quad \div 2 \\ \hline x = 30 \end{array}$$

7) $\overbrace{\quad\quad\quad}^{\frac{2}{3}}$ of a number is $\overset{=}{\underset{=}{\quad\quad\quad}} \overset{6}{\quad\quad\quad}$ less than $\overbrace{\quad\quad\quad}^{\frac{1}{2}}$ of the number, find the number.

$$\begin{array}{r} \frac{2}{3}x = \frac{1}{2}x - 6 \\ \frac{2x}{3} = \frac{1x}{2} - \frac{6}{1} \\ \frac{2x}{3} = \frac{x-12}{2} \\ 4x = x - 12 \\ -3x = -12 \\ \hline x = 4 \end{array}$$

8) $\overbrace{\quad\quad\quad}^{3x-2} \overset{=}{\underset{=}{\quad\quad\quad}} \overbrace{\quad\quad\quad}^x \overset{+}{\underset{+}{\quad\quad\quad}} \overset{20}{\quad\quad\quad}$, find the number.

$$\begin{array}{r} 3x - 2 = x + 20 \\ -x \quad -x \\ \hline 2x - 2 = 20 \\ +2 \quad +2 \\ \hline 2x = 22 \\ \div 2 \quad \div 2 \\ \hline x = 11 \end{array}$$