

常见方程问题的解题技巧

解决方程的题目，同学们需要对方程的定义非常熟悉，方程是指**含有未知数的等式**。这里有两个关键点：

- 1、必须含有未知数，也就是式子中要能看见字母；
- 2、必须是等式，也就是用等号连接的左右两个部分的式子；

例如： $2+5=7$ ， $x-6>7$ ，这些都不是方程，前者没有未知数，后者不是等式

解方程的常见步骤如下：

一、去括号、去分母

在开始解方程前，首先需要将等号两边出现的括号去掉（这里提到的去分母目前四年级不会遇到咱们以后再说）去括号通常用到的方法是：**乘法分配律**

例如出现： $5x-3(x+2)$

就需要先去括号得到： $5x-3x-6$

这里需要注意的是：①乘法分配律都要乘；②括号前是减号，括号里的加减号要变号

二、移项

第二步移项，指的是需要将方程中所有未知数的部分统一都放在等号的一边，纯数的部分都放在等号的另一边，简单的说就是字母一边，数字一边。

移项需要注意的是：当未知数或单独的数从等号的一边移到另一边时一定要变号

例如： $5x+6=3x+10$

移项后： $5x-3x=10-6$

这里提醒一下，属于每个数的符号都在这个数的前面，如果前面没有符号，相当于省略了加号，比如例子中的“ $3x$ ”，在从等号右边移到左边后，它前面的加号变成减号。

三、合并及计算

该步骤指的是：移项结束后分别计算等号两边的算式，例如刚刚提到 $5x+6=3x+10$ ，移项后得 $5x-3x=10-6$ ，合并后得到 $2x=4$ ，计算得 $x=2$ 。

四、检验

为了保证解方程的正确性，可以将算出的未知数的值带回原方程中计算，看方程两边的结果是否相同，例如上面解出 $x=2$ ，带回原方程左边算得： $5\times 2+6=16$ ，右边算得： $3\times 2+10=16$ ，可得左右两边相等，即计算正确。

Practice exercises on linear equations in one variable

Day 1

1. Solve equations

(1) $5x + 3 = 18$

(2) $18 - 3x = 6$

(3) $25x + 4 = 15x + 44$

(4) $35 + 4x = 65 - 2x$

2. Solve equations

(1) $105 - (6x + 5) = 4x + 40$

(2) $6x - 2(7 - 2x) = 8x + 6$

(3) $2x + 3(3x + 5) = 6x + 50$

(4) $38x - 5(6x + 8) = 8x + 2(4 - 3x)$

(5) $6(3x + 2) - 2(56 - 2x) = 6x + 44$

(6) $3x + 5(2x + 15) = 14x + 3(9 + x)$

Practice exercises on linear equations in one variable

Day 2

1. Solve equations

(1) $2x + 7 = 23$

(2) $x + 23 = 45$

(3) $2x + 8 = 18$

(4) $x - 12 = 37$

2. Solve equations

(1) $7(2x - 6) = 84$

(2) $6(3x + 8) = 192$

(3) $4(2x + 3) + 20 = 59 - x$

(4) $3(2x + 6) - 5 = 33 + 2x$

(5) $7x - 6 = 5(18 - x)$

(6) $4x - 2 + x = 3 + 2(x + 5)$

Practice exercises on linear equations in one variable

Day 3

1. Solve equations

(1) $2x - 3 = 19$

(2) $5 + x = 36$

(3) $91 \div x = 7$

(4) $x \div 6 = 18$

2. Solve equations

(1) $4(45 - x) = 92$

(2) $356 - 7(3x - 6) = 230$

(3) $3x - 8 = 4(x - 4)$

(4) $5x + 1 = 87 - (x - 4)$

(5) $2(13 - 2x) = 18 + 4x$

(6) $21 - 6x = 18 - 3(x + 2)$

Practice exercises on linear equations in one variable

Day 4

1. Solve equations

(1) $3x - 6 = 102$

(2) $4x + 1 = 65$

(3) $x - 34 = 23$

(4) $7x - 9 = 12$

2. Solve equations

(1) $5(x - 8) = 3x$

(2) $4(54 + x) = 58x$

(3) $7x - 7 = 6x + 4$

(4) $7(x + 2) = 5x + 60$

(5) $8x - 6x + 30 = 12x + 10$

(6) $2(13 - 2x) - 8 = 16 - 3x$

Practice exercises on linear equations in one variable

Day 5

1. Solve equations

(1) $19 + 2x = 31$

(2) $2x - 23 = 39$

(3) $19 + x = 89$

(4) $8x = 72$

2. Solve equations

(1) $5x - 6 = 32 - 3(x + 2)$

(2) $2x - 19 = 37 - 4(x - 1)$

(3) $7(x - 2) = 2x + 6$

(4) $32 - (2x - 8) = 2(6 + x)$

(5) $3(x + 3) = 50 - x + 3$

(6) $4 + 5(x - 6) = 3(x - 2)$

Practice exercises on linear equations in one variable

Day 6

1. Solve equations

(1) $3x - 28 = 23$

(2) $83 - x = 29$

(3) $29 - x = 13$

(4) $20x + 7 = 147$

2. Solve equations

(1) $3(5x + 6) - 3 = 18x$

(2) $7(3x - 2) = 80 - (2x + 2)$

(3) $3 - x = 2 - 5(x - 1)$

(4) $84 - 6x = 3x + 21$

(5) $6 + 6x = 8(x + 1) - 20$

(6) $8x + 12 = 78 - 2(x + 3)$

Practice exercises on linear equations in one variable

Day 7

1. Solve equations

(1) $x \div 9 = 83$

(2) $5x - 9 = 116$

(3) $243 \div x = 3$

(4) $9x - 7 = 65$

2. Solve equations

(1) $4(x - 2) - 6 = 2(2 + x)$

(2) $5x - 3 = 3(x + 7)$

(3) $56 - 5x = 17(x + 2)$

(4) $84 - 8x = 51 + 3x$

(5) $9x + 14 = 4(12 + x) - 14$

(6) $8x - 2(3 - x) = 4x$

Practice exercises on linear equations in one variable

Day 8

1. Solve equations

(1) $x - 82 = 29$

(2) $32 - x = 29$

(3) $x + 18 = 56$

(4) $38 - x = 11$

2. Solve equations

(1) $6x - (2x + 7) = 2x + 1$

(2) $43x - 36 = 74 - 12x$

(3) $6x - 12 = 2(8 + x)$

(4) $3(x - 5) = 46 - (x + 1)$

(5) $2x + 4(x - 2) = 7x - 14$

(6) $4x + 3(x + 7) = 5(5 + x)$

Practice exercises on linear equations in one variable

Day 9

1. Solve equations

(1) $6x + 8 = 44$

(2) $5x - 7 = 88$

(3) $19 + x = 87$

(4) $16x - 4 = 668$

2. Solve equations

(1) $4x + 6 = 3x + 14$

(2) $6x - 7 = 4x + 9$

(3) $8x - 1 = 5(x + 4)$

(4) $14 - 2x = 30 - 6x$

(5) $6x - 3(x - 2) = 5x$

(6) $5x - 3(x - 2) = 20 - 2(3 + x)$

Practice exercises on linear equations in one variable

Day 10

1. Solve equations

(1) $21x = 252$

(2) $19x - 1 = 398$

(3) $7x - 18 = 66$

(4) $6x - 19 = 65$

2. Solve equations

(1) $4x - 3(20 - x) = 3$

(2) $86 - (2x - 4) = 7x$

(3) $5x - 7 = 3(19 - x)$

(4) $4x - 3 = 5 + 2x$

(5) $26 - 4x = 20 - (2x + 2)$

(6) $9x - (3 - x) = 21 - 2x$